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Health Risks and Preventive Behaviors

Results from the Behavioral Risk Factor Surveillance System
(1994-1999)

GREATER LAWRENCE CHINA



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CHRONIC DISEASE SURVEILLANCE PROGRAM ♦
BUREAU OF HEALTH STATISTICS, RESEARCH AND EVALUATION ♦
MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH
MARCH 2001

MASSACHUSETTS CHNAs

CHNA 1	Community Health Network of Berkshire County
CHNA 2	The Upper Valley Health Web, Franklin County CHNA
CHNA 3	Partnership for Health in Hampshire County, Greater Northampton
CHNA 4	The Community Health Connection, Greater Springfield CHNA
CHNA 21	Four (for) Communities, Greater Holyoke CHNA
CHNA 5	CHNA of Southern Worcester County
CHNA 6	Community Partners for Health, Greater Milford CHNA
CHNA 7	Community Health Network of Greater Metro West, Greater Framingham CHNA
CHNA 8	Community Wellness Coalition, Greater Worcester CHNA
CHNA 9	Fitchburg/Gardner CHNA
CHNA 10	Greater Lowell CHNA
CHNA 11	Greater Lawrence CHNA
CHNA 12	Greater Haverhill CHNA
CHNA 13	Greater Beverly/Gloucester CHNA
CHNA 14	North Shore CHNA
CHNA 15	Greater Woburn/Concord/Littleton CHNA
CHNA 16	North Suburban Health Alliance, Greater Medford/Malden/Melrose CHNA
CHNA 17	Greater Cambridge/Somerville CHNA
CHNA 18	West Suburban Health Network, Greater Newton/Waltham CHNA
CHNA 19	Alliance for Community Health, Boston/Chelsea/Revere/Winthrop CHNA
CHNA 20	Blue Hills Community Health Alliance, Greater Quincy CHNA
CHNA 22	Greater Brockton CHNA
CHNA 23	South Shore Community Partners in Prevention, Greater Plymouth CHNA
CHNA 24	Greater Attleboro-Taunton Health and Education Response (GATHER)
CHNA 25	Partners for a Healthier Community, Greater Fall River CHNA
CHNA 26	Greater New Bedford Health & Human Services Coalition
CHNA 27	Cape and Islands CHNA

HEALTH RISKS AND PREVENTIVE BEHAVIORS
Results from the Behavioral Risk Factor Surveillance System
(1994-1999)

Greater Lawrence CHNA

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We also wish to express our gratitude to the residents of Massachusetts who participated in this survey.

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In addition, this report summarizes how the Greater Lawrence CHNA, compares to other CHNAs on each health measure. For each health topic, we provide a map of Massachusetts, which shows the CHNAs where the prevalence estimate is significantly higher, or significantly lower, than the state average. A test of significance was based on a p-value of less than or equal to 0.10. (Refer to the Glossary for an explanation of p-value.) We also provide the prevalence estimates for all variables for each CHNA in the Appendix.

Due to the limited number of respondents in some CHNAs, we have prepared two versions of this report. The abridged version, prepared for CHNAs with fewer respondents, includes data on questions that are asked of all respondents and questions asked of large groups of respondents, such as questions that focus on all women. The full version, prepared for the larger CHNAs, also includes questions asked of groups with fewer respondents (e.g. individuals over the age of 50).

This report for the Greater Lawrence CHNA, is the full version. The Greater Lawrence CHNA, has a sufficient number of respondents over the six-year period to report results of questions asked of specific groups of residents. The BRFSS provides a rich source of information on the health of adults residing in Massachusetts and each CHNA. We hope that the data presented in this report will contribute to the development and targeting of medical, educational, and policy initiatives to improve the health status of the Greater Lawrence CHNA.

RISK FACTORS

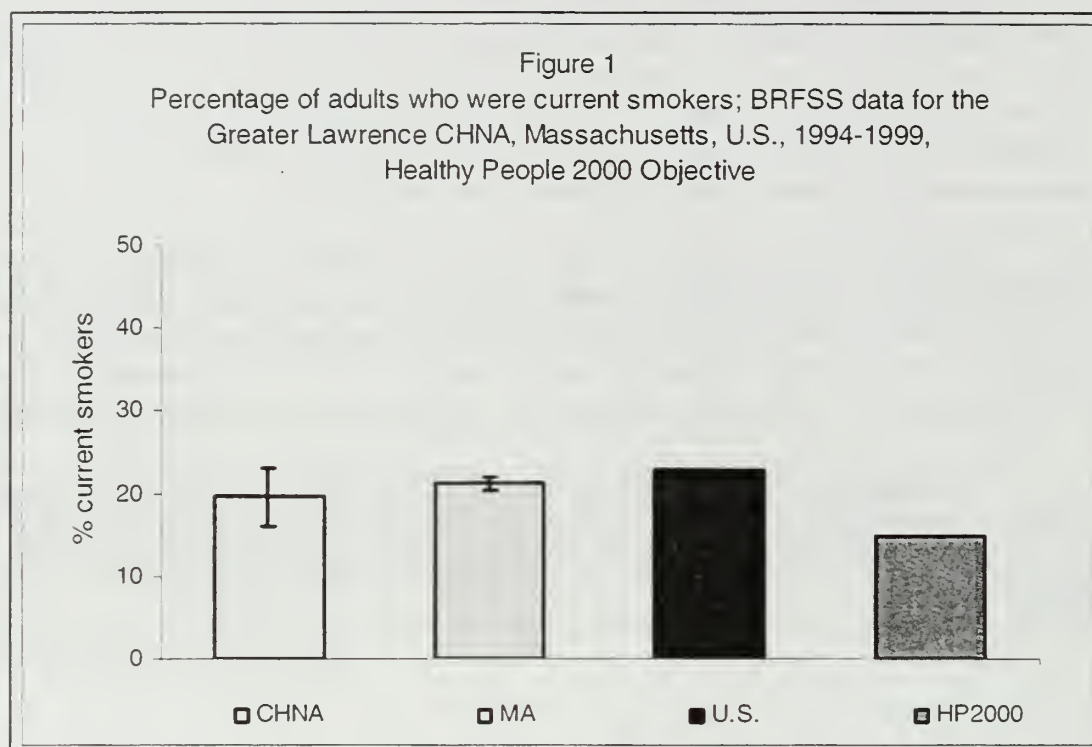
SMOKING

Tobacco use causes more deaths in the U.S. than any other preventable risk factor. Smoking causes lung cancer as well as laryngeal, oral, esophageal, bladder, pancreatic, kidney, and cervical cancers. Lung cancer mortality rates are about 22 times higher for current male smokers and about 10-12 times higher for current female smokers compared to lifelong never smokers. Each year in Massachusetts, approximately 4,300 residents are diagnosed with lung cancer and 3,700 people die of the disease.

Smoking also is a major cause of coronary heart disease and stroke among both men and women. Smokers have twice the risk of having a heart attack and 2 to 4 times the risk of sudden death from heart attack compared to nonsmokers. Smoking is a cause of COPD, a leading cause of death in Massachusetts. Gastric ulcers, intrauterine growth retardation, and low birthweight, among other conditions, are also related to smoking.

In September 1990, the Surgeon General reported that regardless of age, people who quit smoking live longer than those who do not quit. Also, smokers who quit before age 50 have half the risk of dying in the next 15 years compared to those who continue to smoke.

In the Greater Lawrence CHNA, 20% of adults were current smokers (Figure 1).² The percentage of current smokers was not statistically different from the state average (see map).



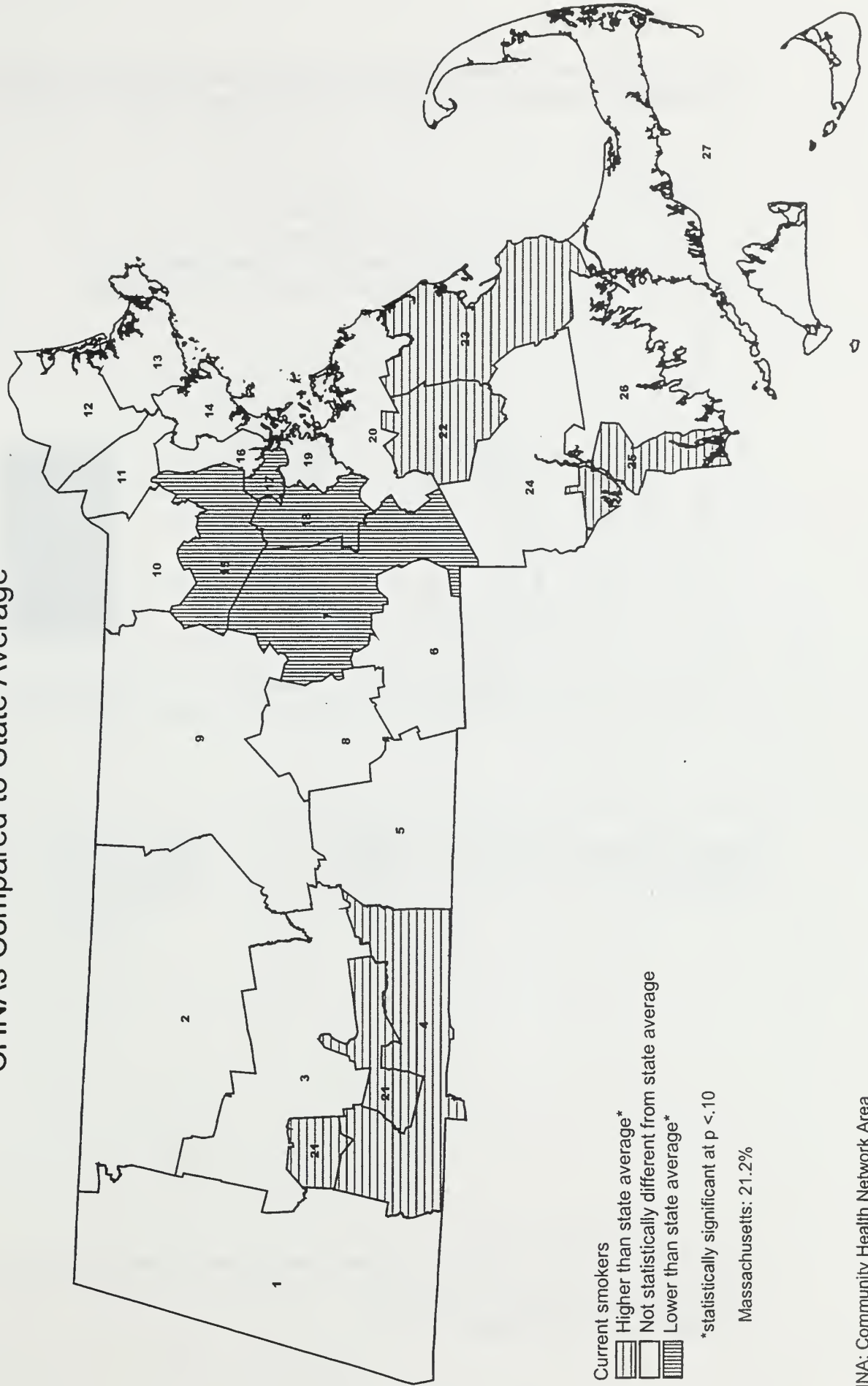
	CHNA	MA	US	HP2000 ³
Current smokers	19.6%	21.2%	22.9%	15%
95% CI ⁴	16.2-23.1	20.4-21.9		

² The bars within the CHNA and MA bar graphs are "error bars" and show the endpoints and width of the confidence interval.

³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

Percentage of Current Smokers, CHNAs Compared to State Average



Current smokers

Higher than state average*

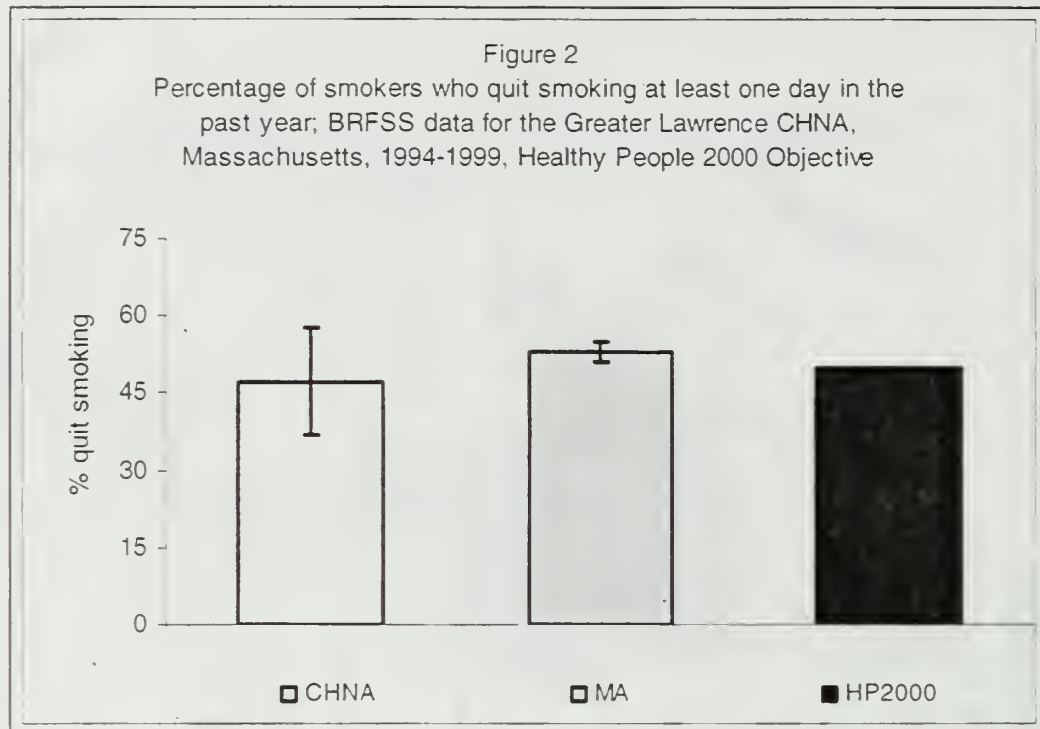
Not statistically different from state average

Lower than state average*

*statistically significant at $p < .10$

Massachusetts: 21.2%

In the Greater Lawrence CHNA, 47% of current daily smokers quit smoking for one day or more during the past year (Figure 2).²



	CHNA	MA	HP2000 ³
Quit smoking at least once in past year	47.3%	53.0%	50%
95% CI ⁴	36.8-57.8	50.9-55.2	

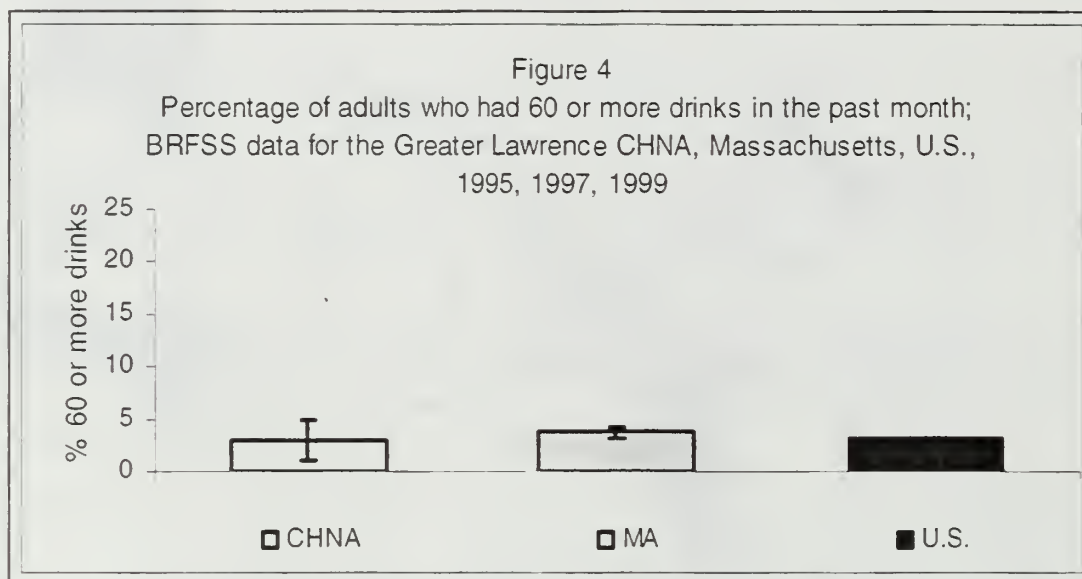
² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

“Percentage of smokers who quit smoking at least one day in the past year” was not provided for all CHNAs due to insufficient numbers of respondents. Therefore, a map is not provided for this variable.

In the Greater Lawrence CHNA, 3% of adults consumed more than 60 drinks in the past month ("heavy drinking") (Figure 4).² The percentage of adults who consumed more than 60 drinks in the past month was not statistically different from the state average (see map).

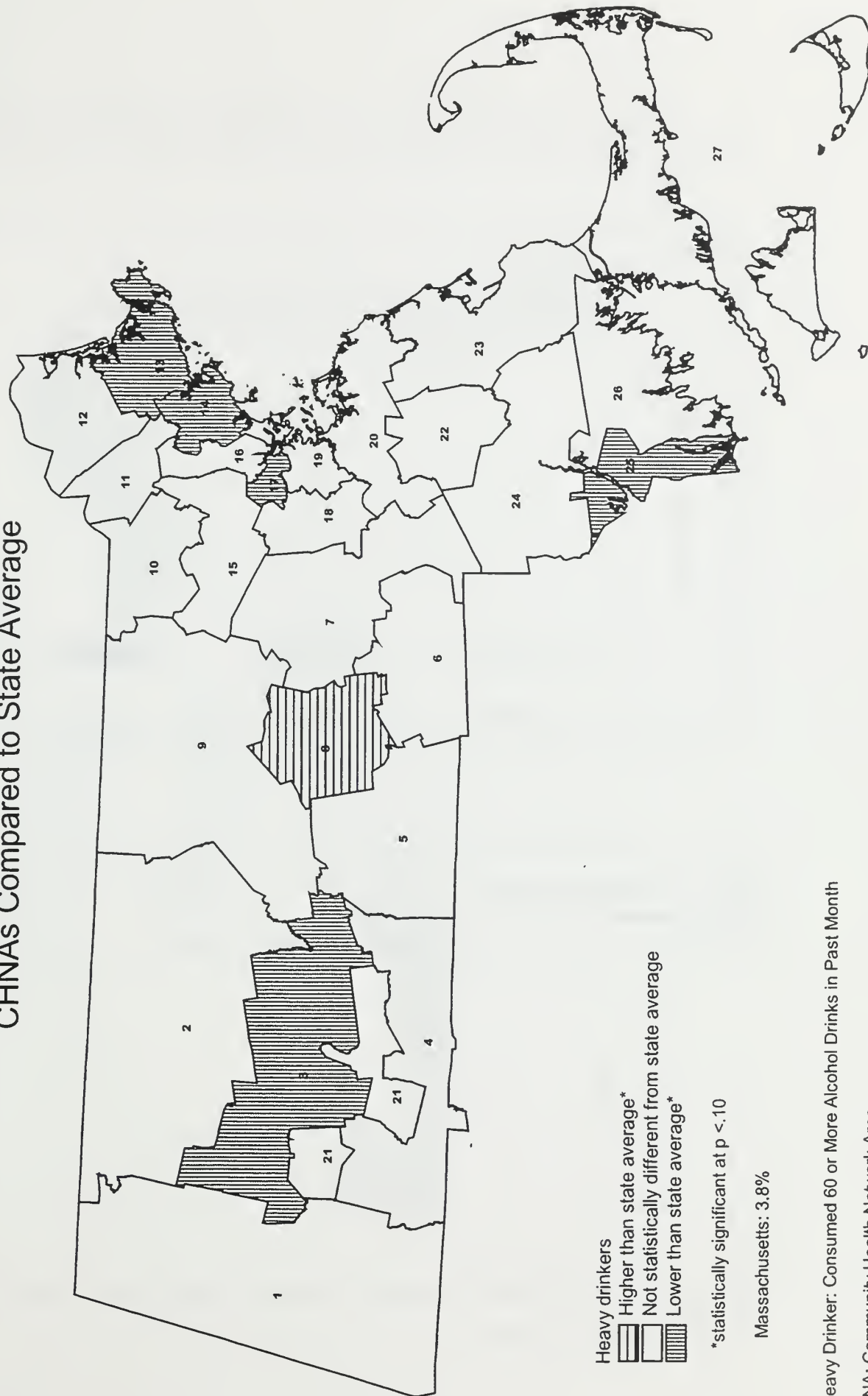


	CHNA	MA	US
60 or more drinks in the past month	2.9%	3.8%	3.1%
95% CI ⁴	1.0-4.9	3.3-4.6	

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Heavy Drinkers,** CHNAs Compared to State Average

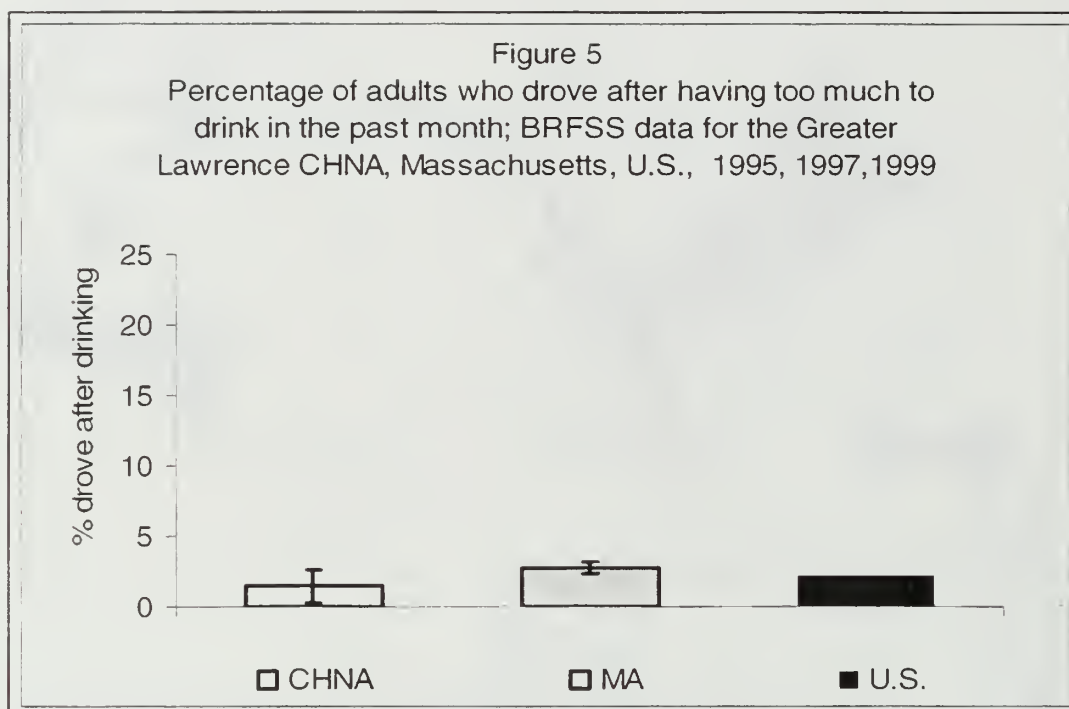


**Heavy Drinker: Consumed 60 or More Alcohol Drinks in Past Month

CHNA: Community Health Network Area

Source: Massachusetts Department of Public Health. Massachusetts BRFSS, 1995, 1997, 1999.

In the Greater Lawrence CHNA, 2% of adults drove after having, in their own estimation, too much to drink (Figure 5).² The percentage of adults who drove after having too much to drink was significantly lower than the state average (see map).

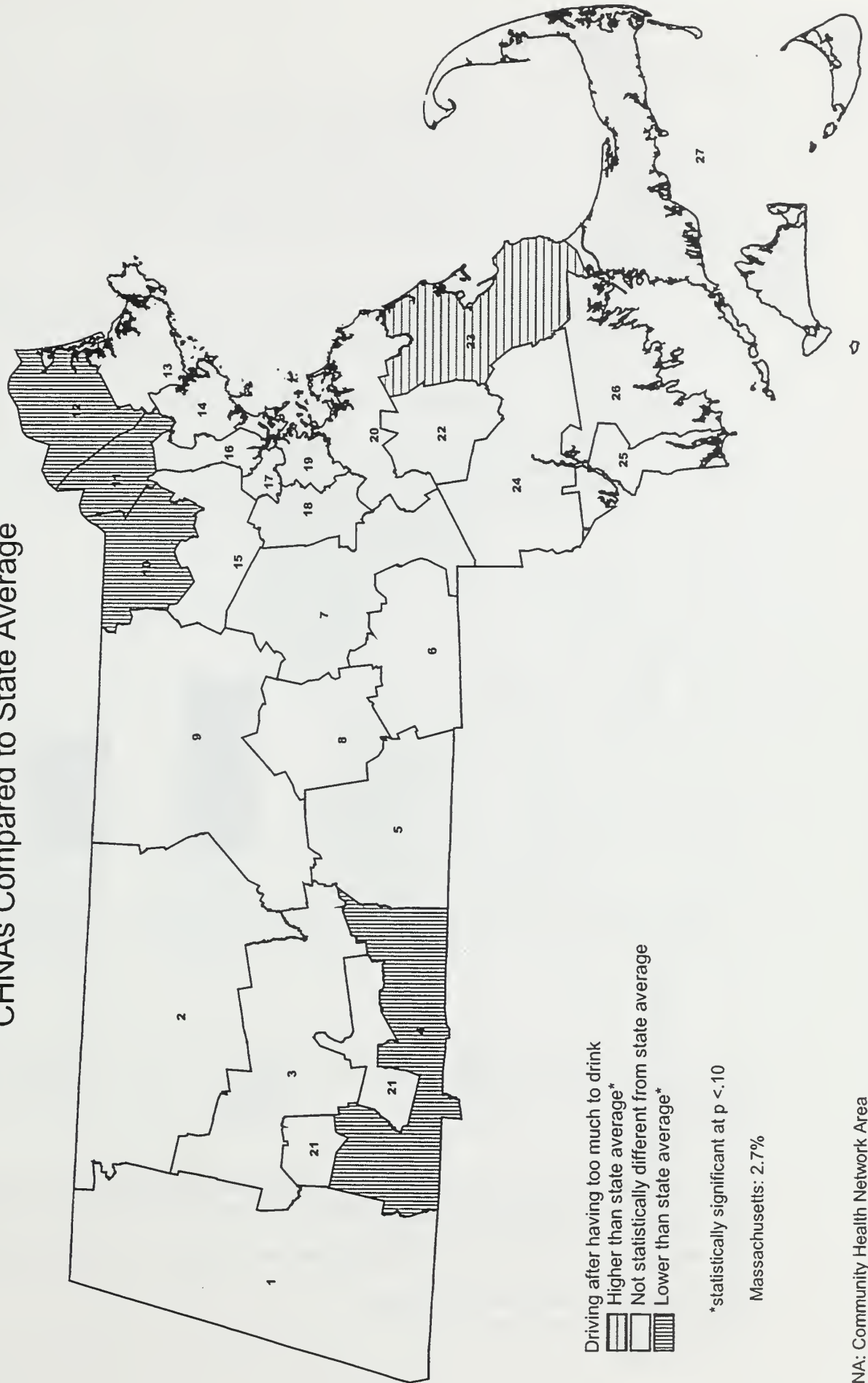


	CHNA	MA	US
Drove after drinking too much in the past month	1.5%	2.7%	2.2%
95% CI ⁴	0.3-2.7	2.3-3.2	

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

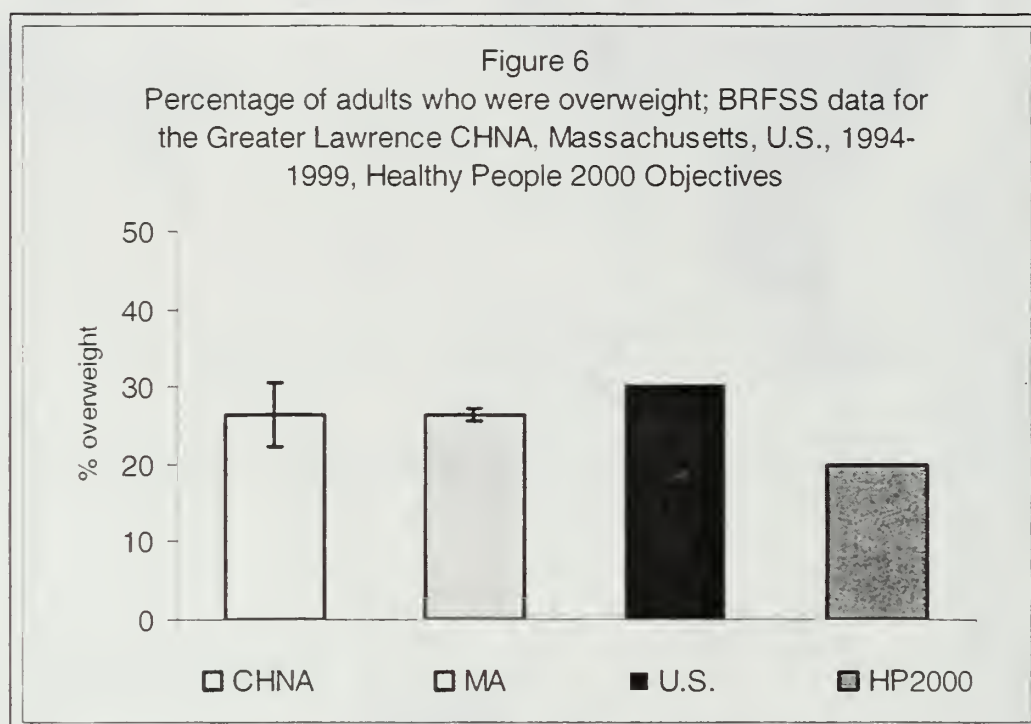
Percentage of Adults Driving After Having Too Much to Drink, CHNAs Compared to State Average



WEIGHT CONTROL

Being overweight is defined as having a body mass index (BMI)⁵ of 27.8 or greater for men and 27.3 or greater for women.⁶ Increasing BMI is positively correlated with higher blood cholesterol levels. In addition, overweight individuals are at increased risk of developing diabetes, hypertension, heart disease, gall bladder disease, and osteoarthritis. The proportion of adults in the U.S. population who are overweight has been increasing over time, a trend that is mirrored in Massachusetts.

In the Greater Lawrence CHNA, 27% of adults were overweight, based on self-reported height and weight measurements (Figure 6).² The percentage of adults who were overweight was not statistically different from the state average (see map).



	CHNA	MA	US	HP2000 ³
Overweight based on BMI	26.5%	25.8%	30.3%	20%
95% CI ⁴	22.3-30.7	25.0-26.6		

⁵ BMI is calculated by dividing a person's weight in kilograms by his/her height in meters squared.

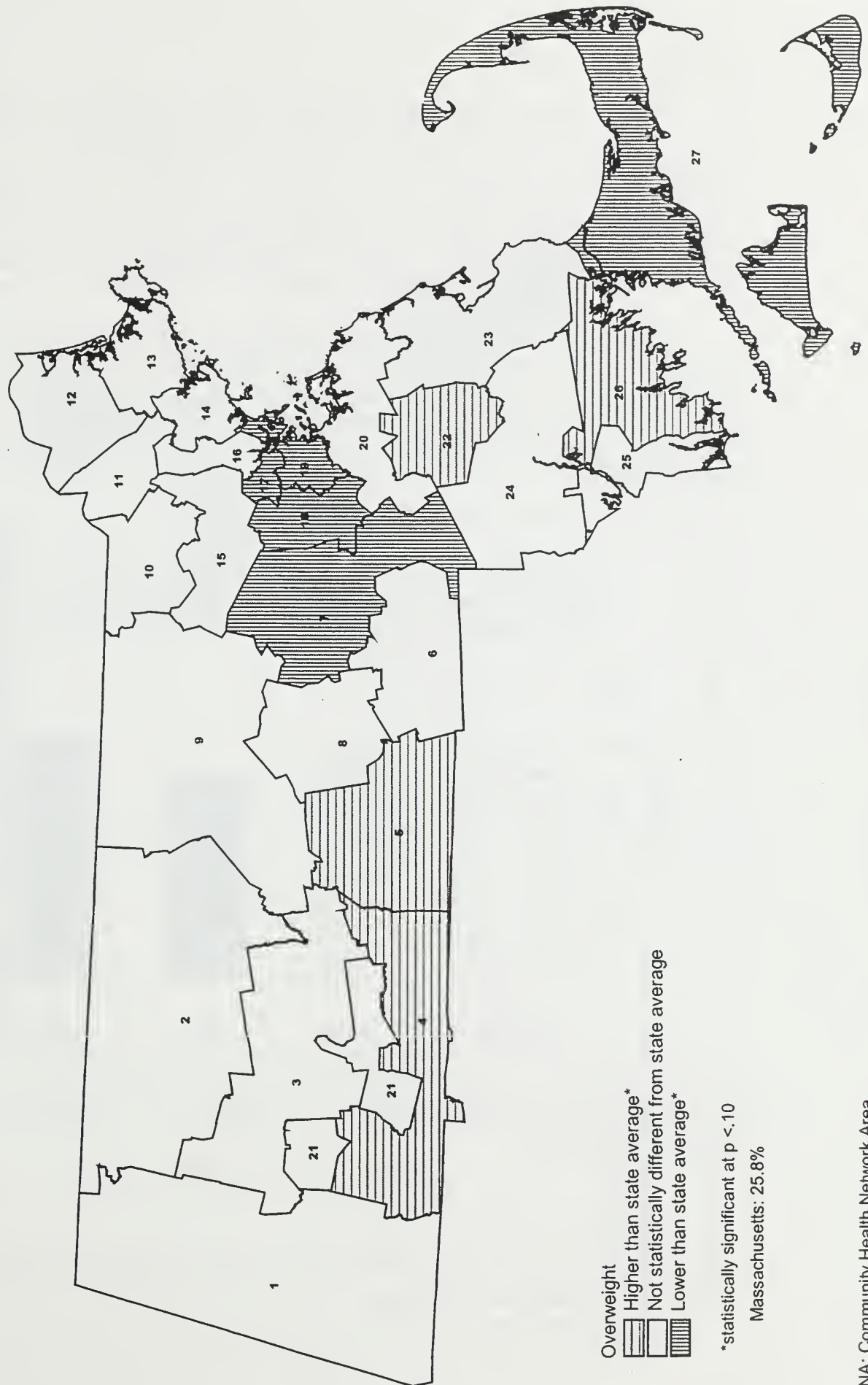
⁶ In June 1998, the National Institutes of Health lowered the threshold for defining overweight by BMI, defining overweight as a BMI of 25 or greater.

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

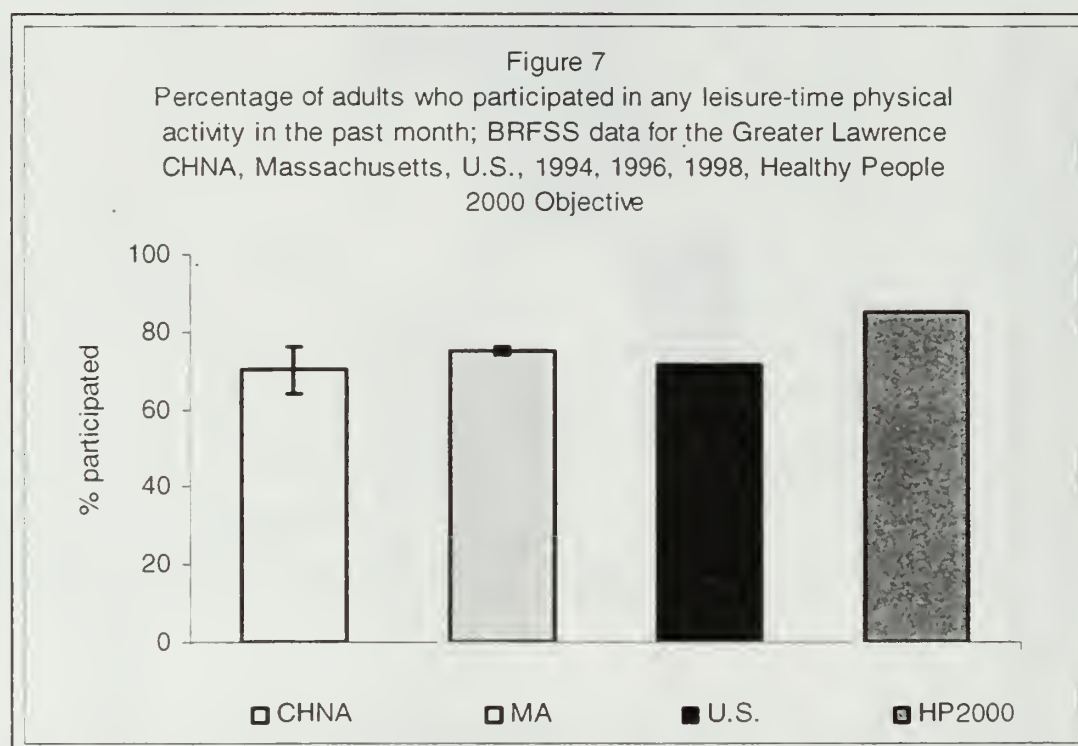
Percentage of Overweight Adults, CHNAs Compared to State Average



PHYSICAL ACTIVITY

Regular physical activity has been demonstrated to have protective effects for several chronic diseases, including coronary heart disease, hypertension, non-insulin-dependent diabetes mellitus, osteoporosis, and colon cancer. Regular physical activity also reduces feelings of depression and anxiety, is an essential component of weight loss programs, and may be linked to reduced risk of back injury. Additional benefits of regular physical activity include helping older adults maintain functional independence and enhancing the quality of life for people of all ages.

The Surgeon General recommends 30 minutes or more of moderate activity 5 times per week or 20 minutes or more of vigorous activity 3 times a week. In the Greater Lawrence CHNA, 70% of adults participated in any leisure-time physical activity in the past month (Figure 7).² The percentage of adults who participated in any leisure-time physical activity in the past month was not statistically different from the state average (see map).



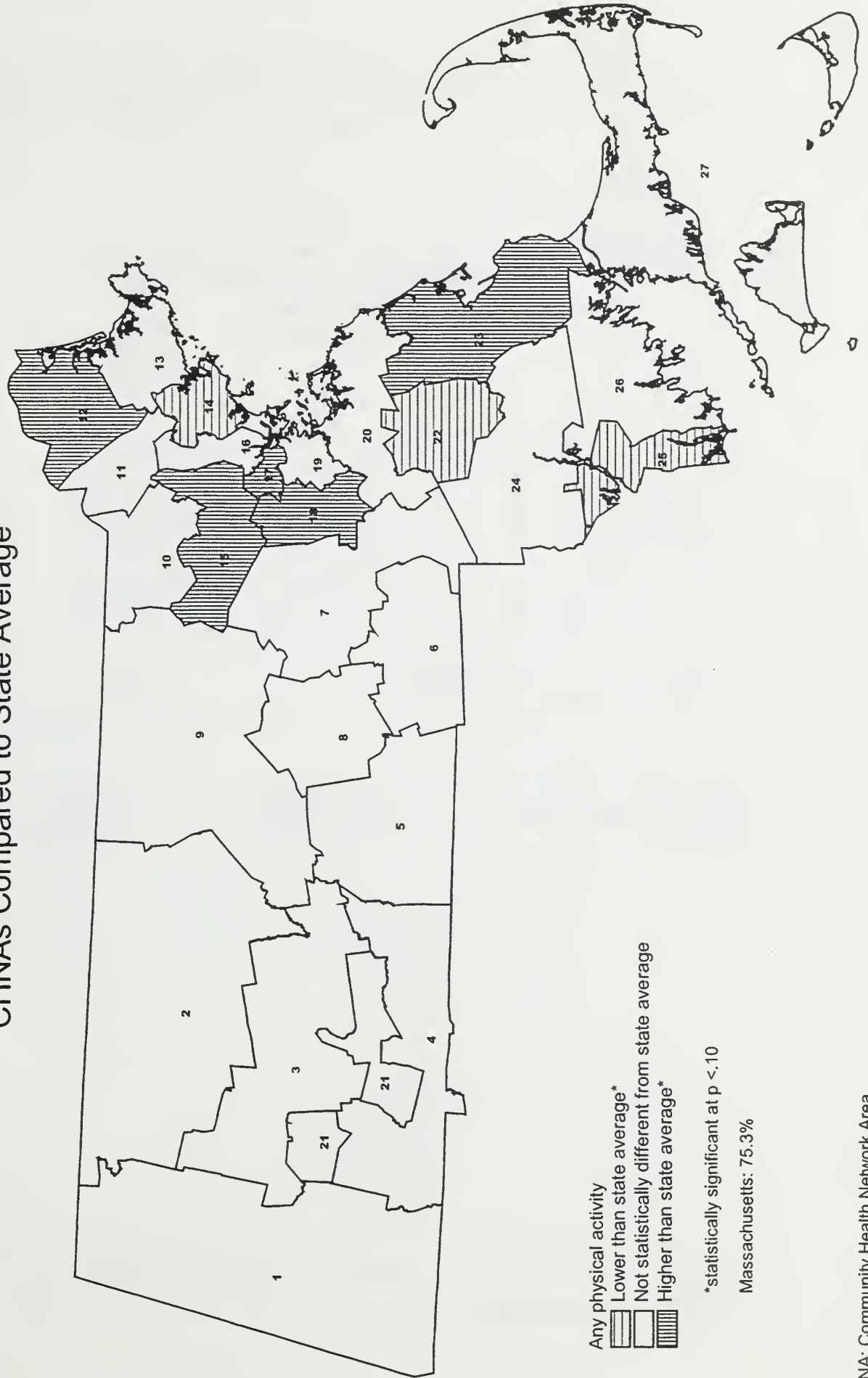
	CHNA	MA	US	HP2000 ³
Participated in leisure-time physical activity in the past month	70.2%	75.3%	71.2%	85%
95% CI ⁴	64.0-76.4	74.1-76.4		

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

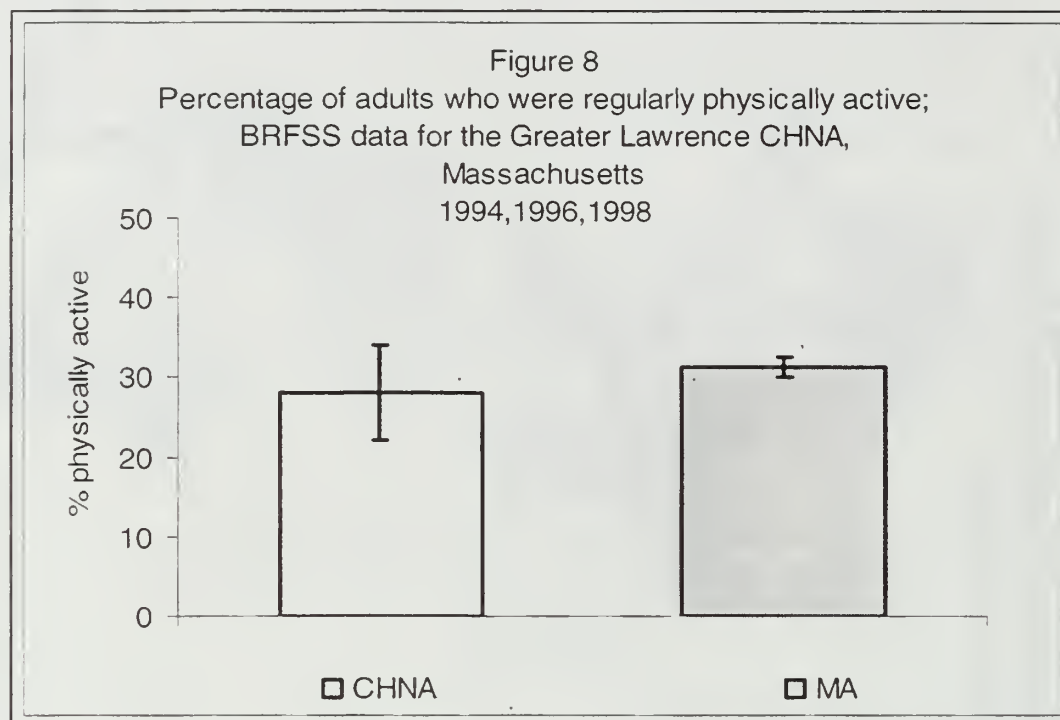
³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

Percentage of Adults who Participated in any Leisure-time Activity, CHNAs Compared to State Average



In the Greater Lawrence CHNA, 28% of adults were regularly physically active, as recommended by the Surgeon General (Figure 8).² The percentage of adults who were regularly physically active was not statistically different from the state average (see map).

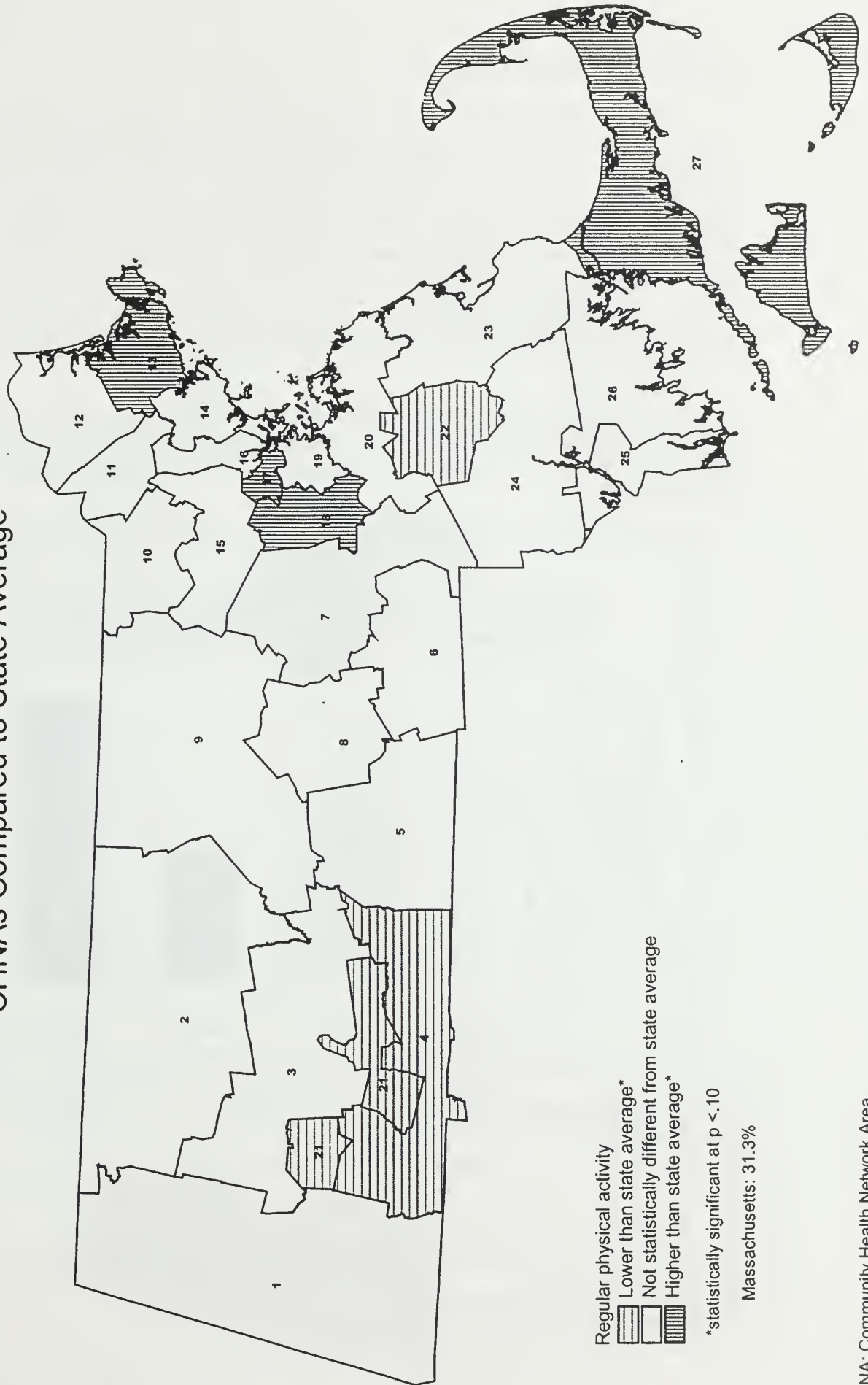


	CHNA	MA
Regularly physically active	28.1%	31.3%
95% CI ⁴	22.1-34.1	30.0-32.5

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

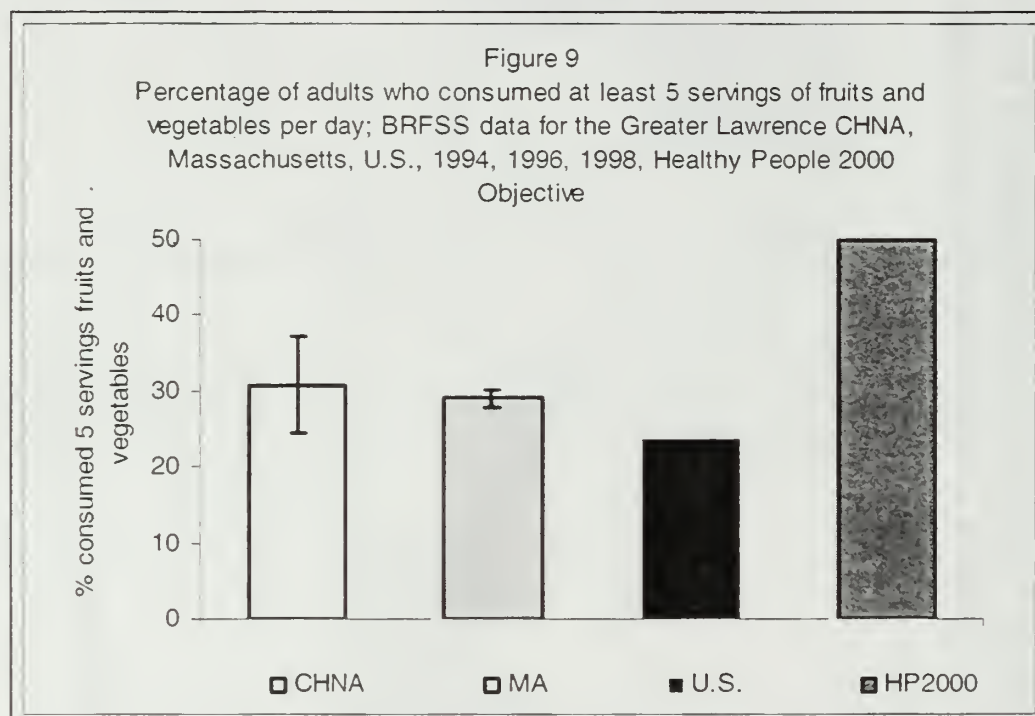
Percentage of Adults who were Regularly Physically Active, CHNAs Compared to State Average



FRUITS AND VEGETABLES

Fruits and vegetables supply a variety of nutrients. Some are good sources of vitamins A, C, folic acid, potassium, and calcium, and most contain fiber. Fruits and vegetables have no cholesterol, and almost all are naturally low in calories, fat, and sodium. Many studies show that the consumption of fruits and vegetables (especially dark green, leafy vegetables) protects against cancer, particularly cancers of the gastrointestinal and respiratory tracts. In addition, eating fruits and vegetables as part of a diet that is low in fat, saturated fat and cholesterol, and high in fiber can decrease the risk of heart disease. The National Cancer Institute, American Cancer Society, and American Heart Association recommend that individuals consume at least 5 servings of fruits and vegetables daily.

In the Greater Lawrence CHNA, 31% of adults consumed at least 5 servings of fruits and vegetables per day (Figure 9).² The percentage of adults who consumed at least 5 servings of fruits and vegetables per day was not statistically different from the state average (see map).



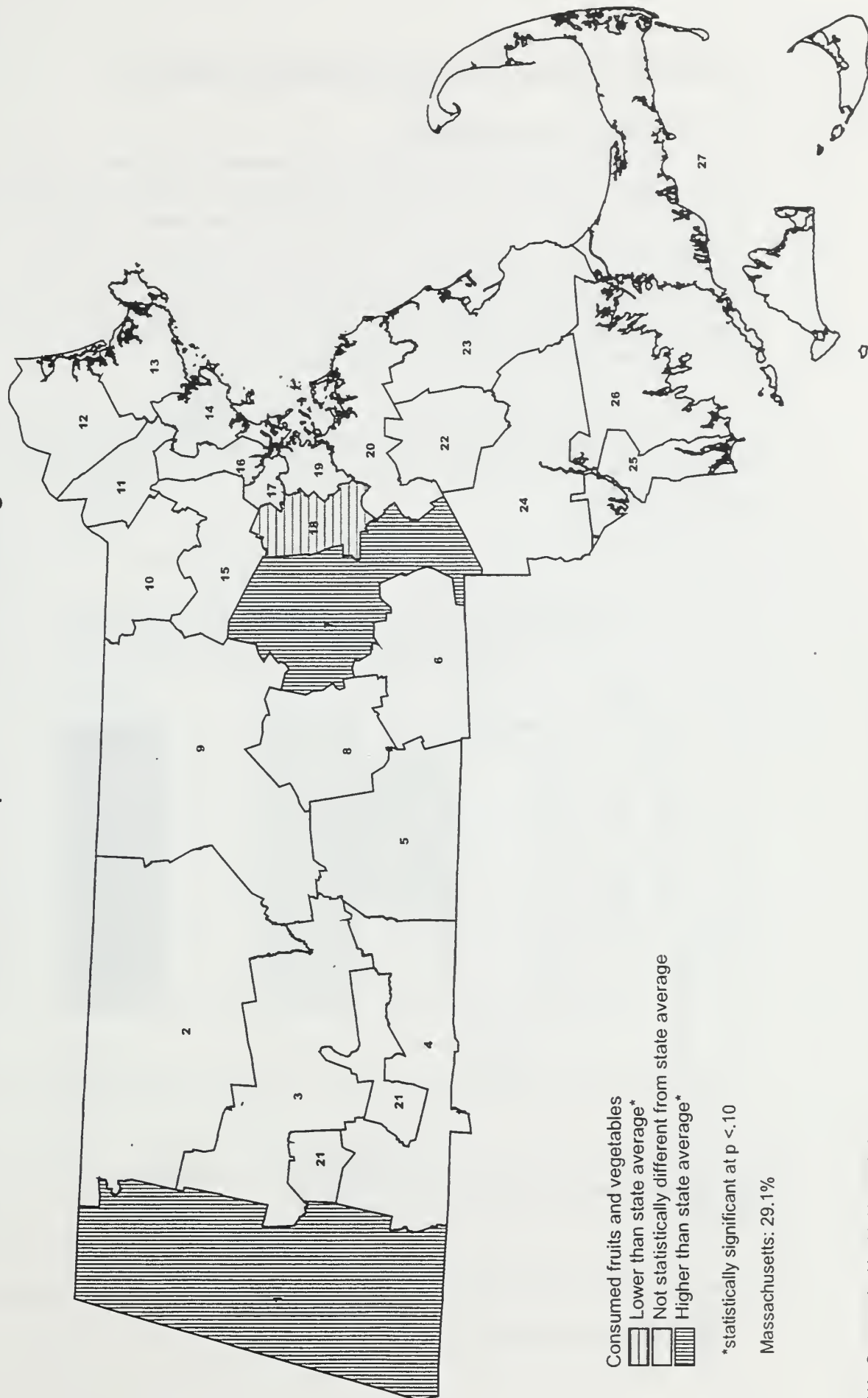
	CHNA	MA	US	HP2000 ³
5 or more servings of fruits and vegetables/day	30.8%	29.1%	23.6%	50%
95% CI ⁴	24.3-37.2	27.9-30.3		

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

Percentage of Adults who Consumed at Least Five Servings of Fruits or Vegetables per Day, CHNAs Compared to State Average

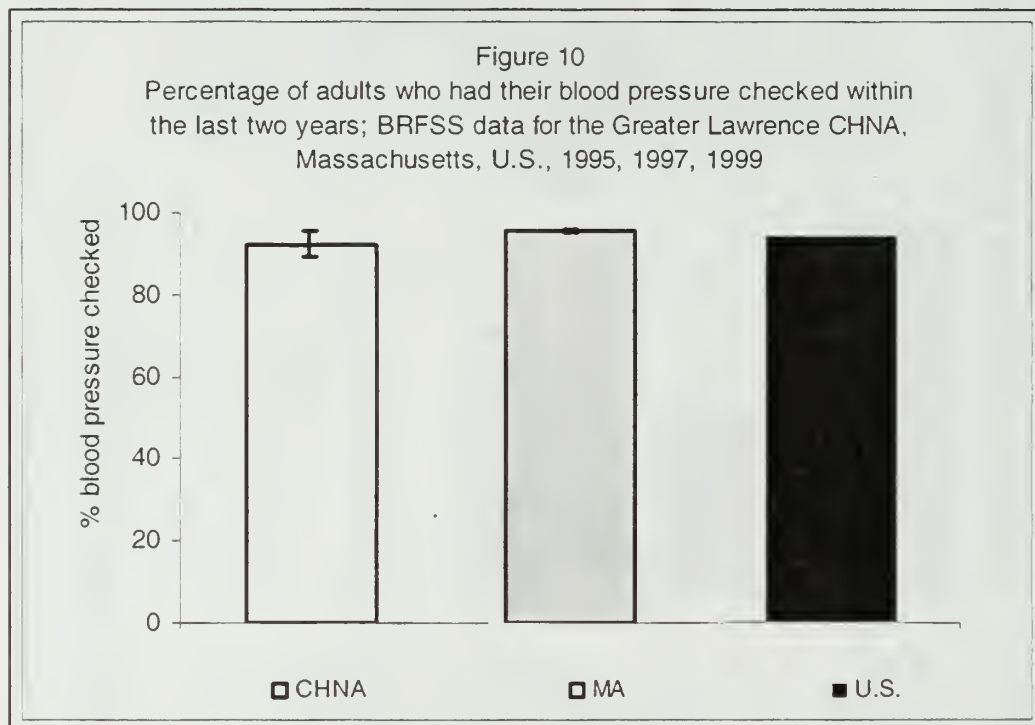


CHRONIC CONDITIONS/PREVENTIVE HEALTH

HYPERTENSION AWARENESS

Hypertension, or high blood pressure, substantially increases the risk of coronary heart disease and stroke, and contributes to damage of the heart, brain, kidneys, and other organs. Modifiable risk factors for hypertension include obesity, high alcohol intake, a diet high in sodium and low in potassium, and physical inactivity. High blood pressure is particularly common among blacks, middle-aged and elderly people, women who are taking oral contraceptives, and individuals with diabetes mellitus, gout, or kidney disease. The American Heart Association recommends that blood pressure be checked by a qualified health professional at least once every two years.

In the Greater Lawrence CHNA, 92% of adults have had their blood pressure checked within the last two years (Figure 10).² The percentage of adults who had their blood pressure checked within the last two years was significantly lower than the state average (see map).

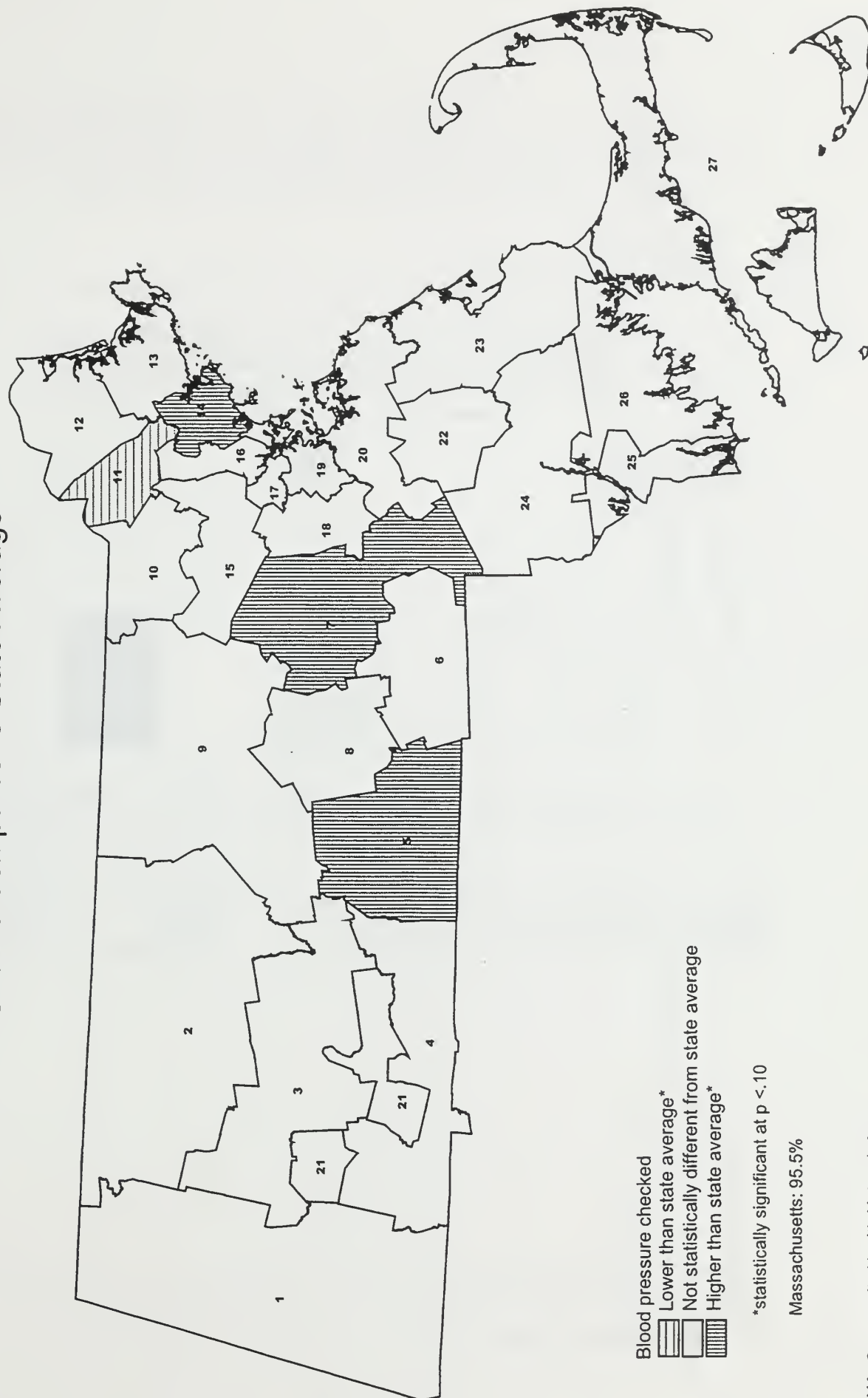


	CHNA	MA	US
Blood pressure checked in past 2 years	92.4%	95.5%	94.3%
95% CI ⁴	89.4-95.3	95.0-96.0	

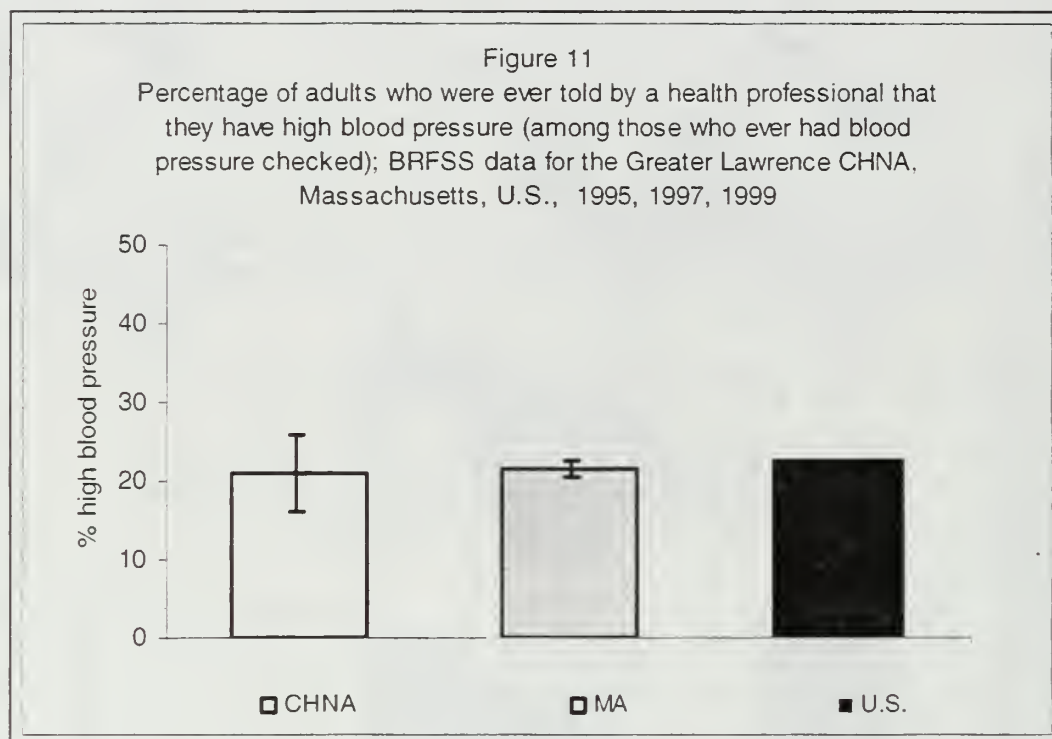
² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults who had Blood Pressure Checked in Past 2 Years, CHNAs Compared to State Average



In the Greater Lawrence CHNA, 21% of those who had ever had their blood pressure checked had ever been told by a doctor, nurse, or other health professional that they had high blood pressure (Figure 11).² The percentage of adults with high blood pressure was not statistically different from the state average (see map).

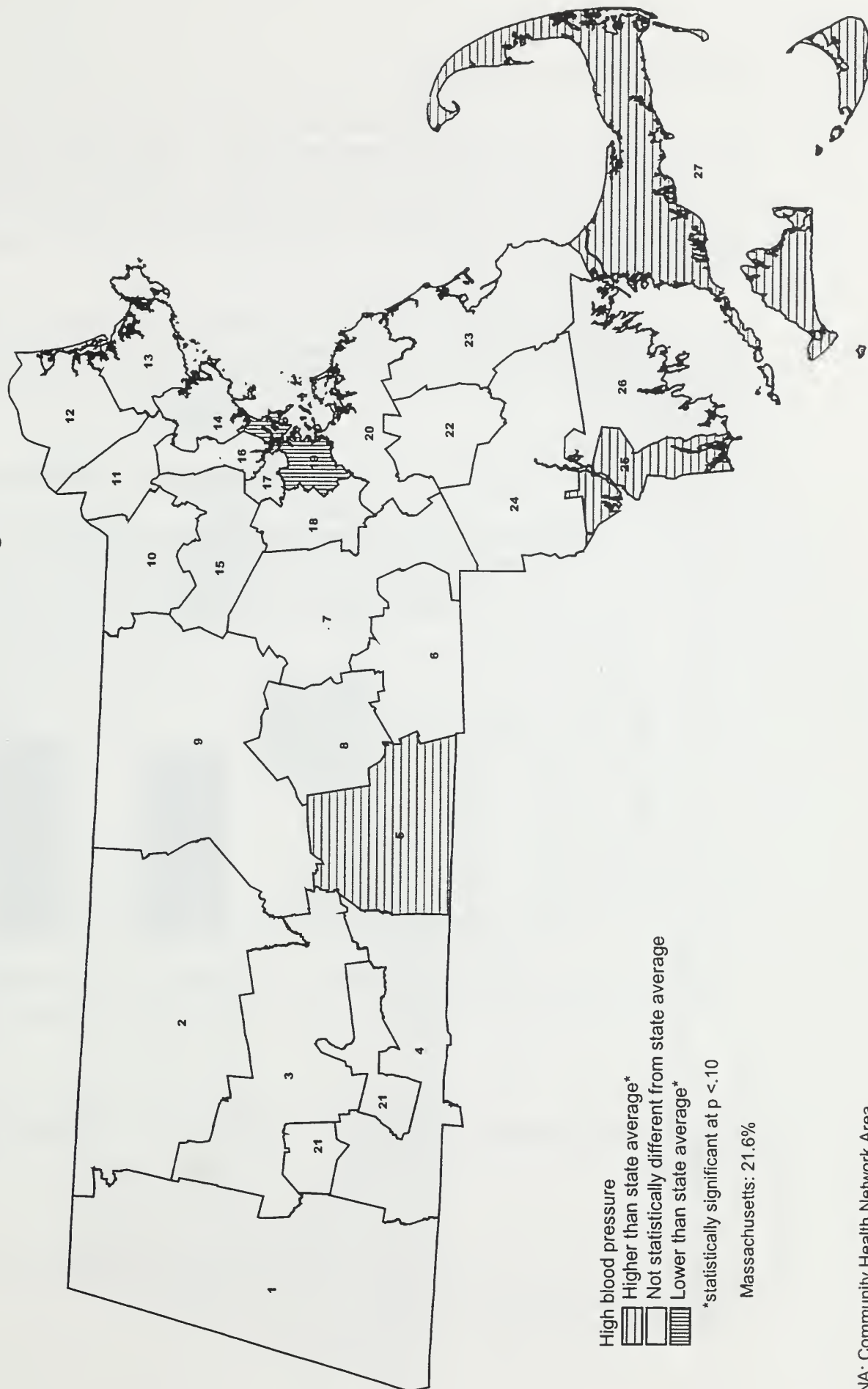


	CHNA	MA	US
Told have high blood pressure	21.1%	21.6%	22.7%
95% CI ⁴	16.2-26.0	20.5-22.6	

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

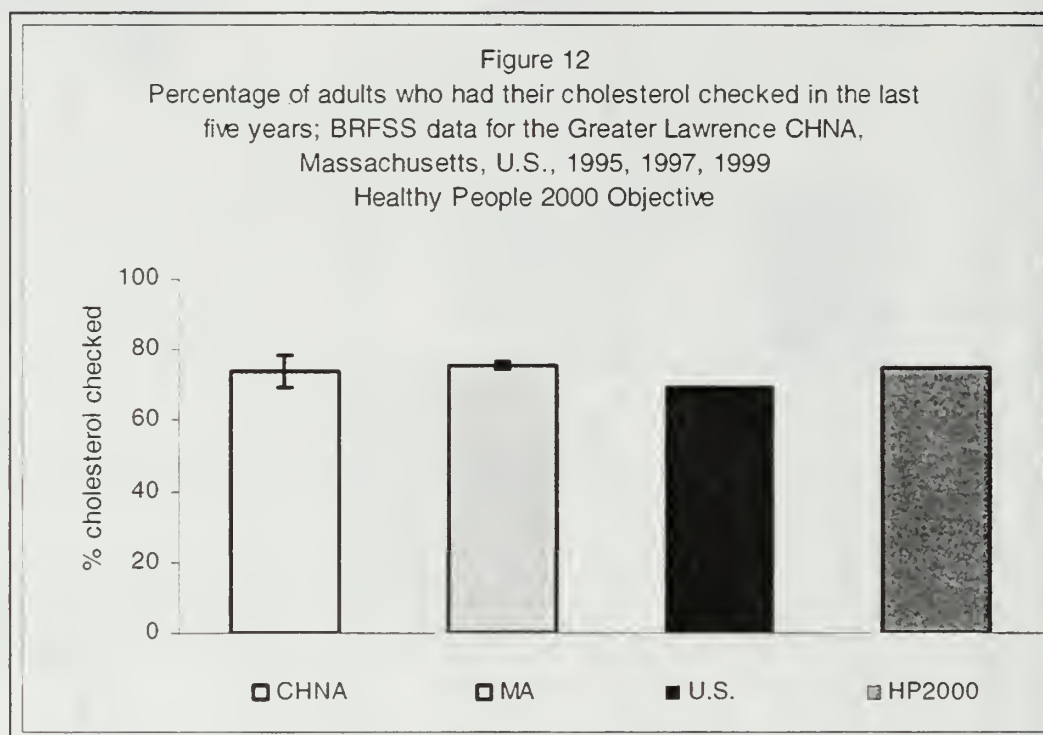
Percentage of Adults with High Blood Pressure, CHNAs Compared to State Average



CHOLESTEROL SCREENING

In 1998, 15,998 residents of Massachusetts died of heart disease, a higher number than from any other cause. Elevated blood cholesterol is associated with increased risk of cardiovascular disease, particularly coronary heart disease. The risk of developing high blood cholesterol increases substantially with age, and is slightly higher for men and whites. Periodic measurement of total serum cholesterol allows for early detection of high blood cholesterol.

In the Greater Lawrence CHNA, 74% of adults had their cholesterol checked within the last five years (Figure 12).² The percentage of adults who had their cholesterol checked within the last five years was not statistically different from the state average (see map).



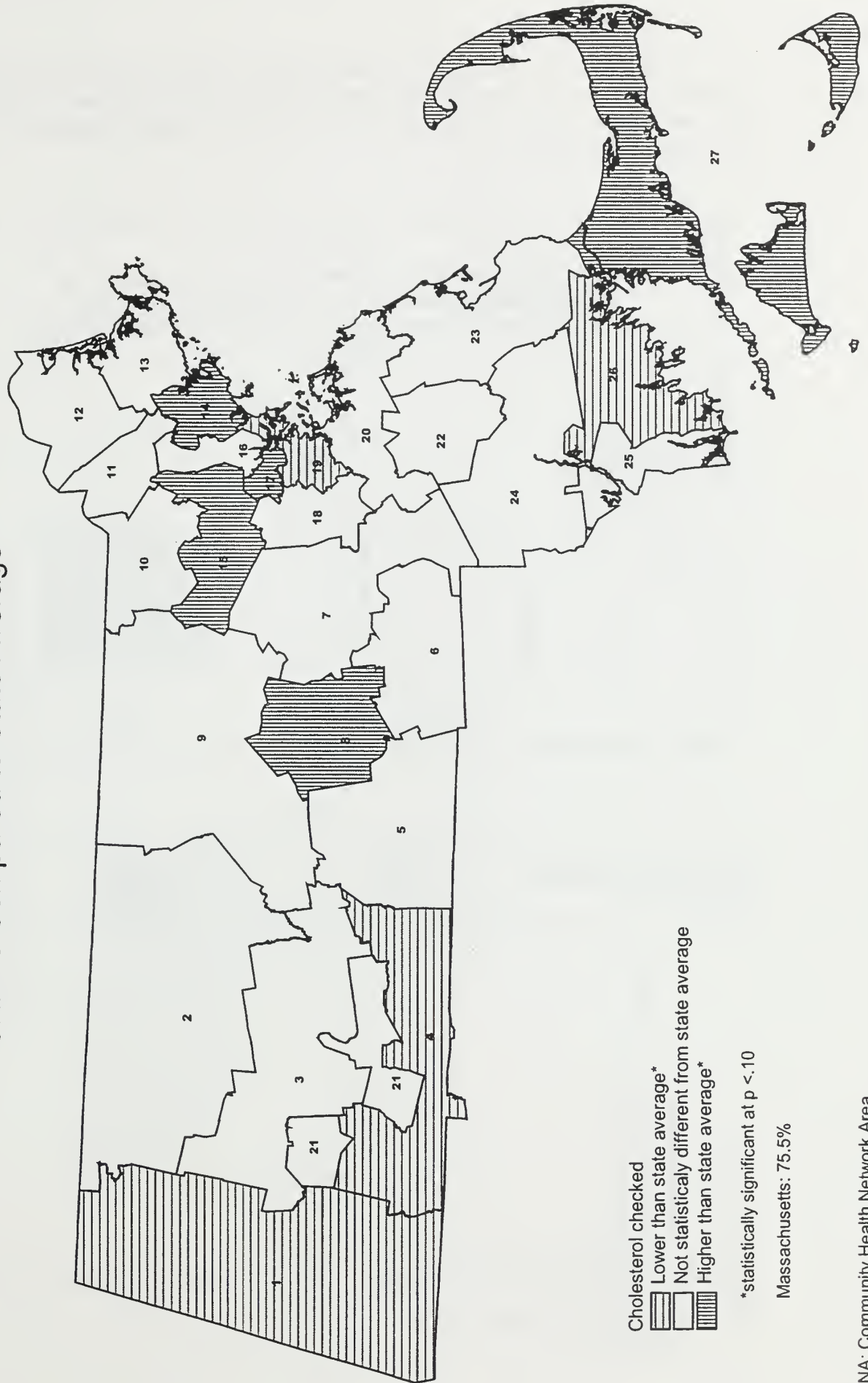
	CHNA	MA	US	HP2000 ³
Cholesterol checked in past 5 years	73.9%	75.5%	69.7%	75%
95% CI ⁴	69.4-78.3	74.3-76.6		

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

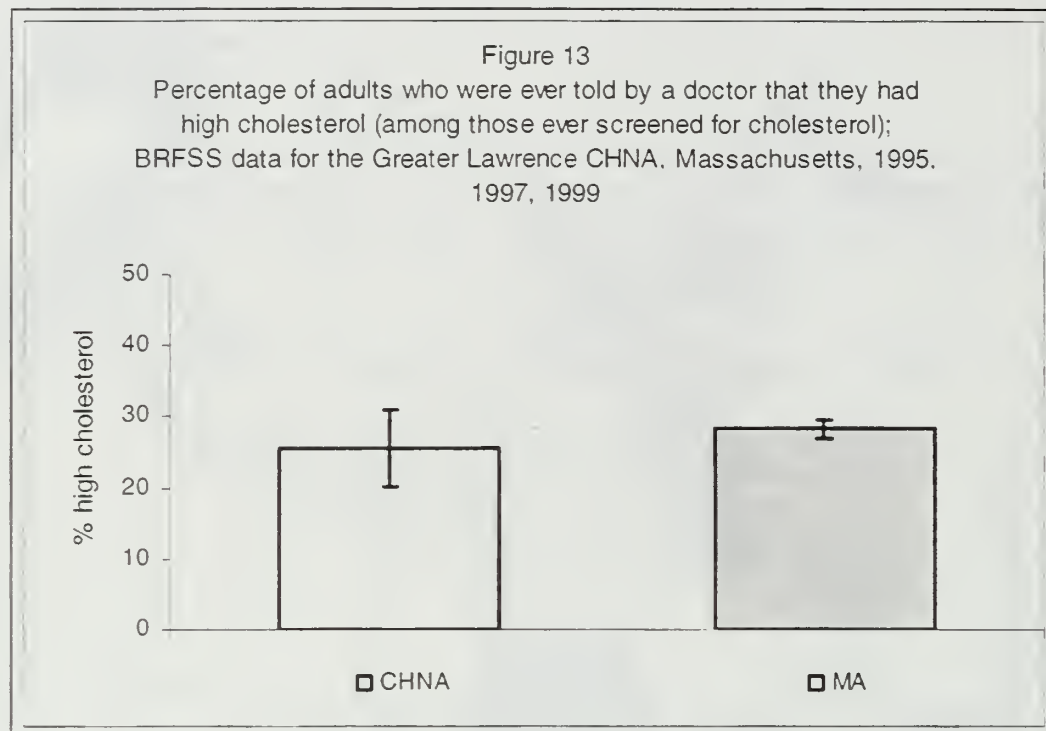
³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

Percentage of Adults who had Cholesterol Checked in Past 5 Years, CHNAs Compared to State Average



In the Greater Lawrence CHNA, among adults who ever had their cholesterol checked, 26% had been told by their doctor that they had high cholesterol (Figure 13).² The percentage of adults with high cholesterol was not statistically different from the state average (see map).

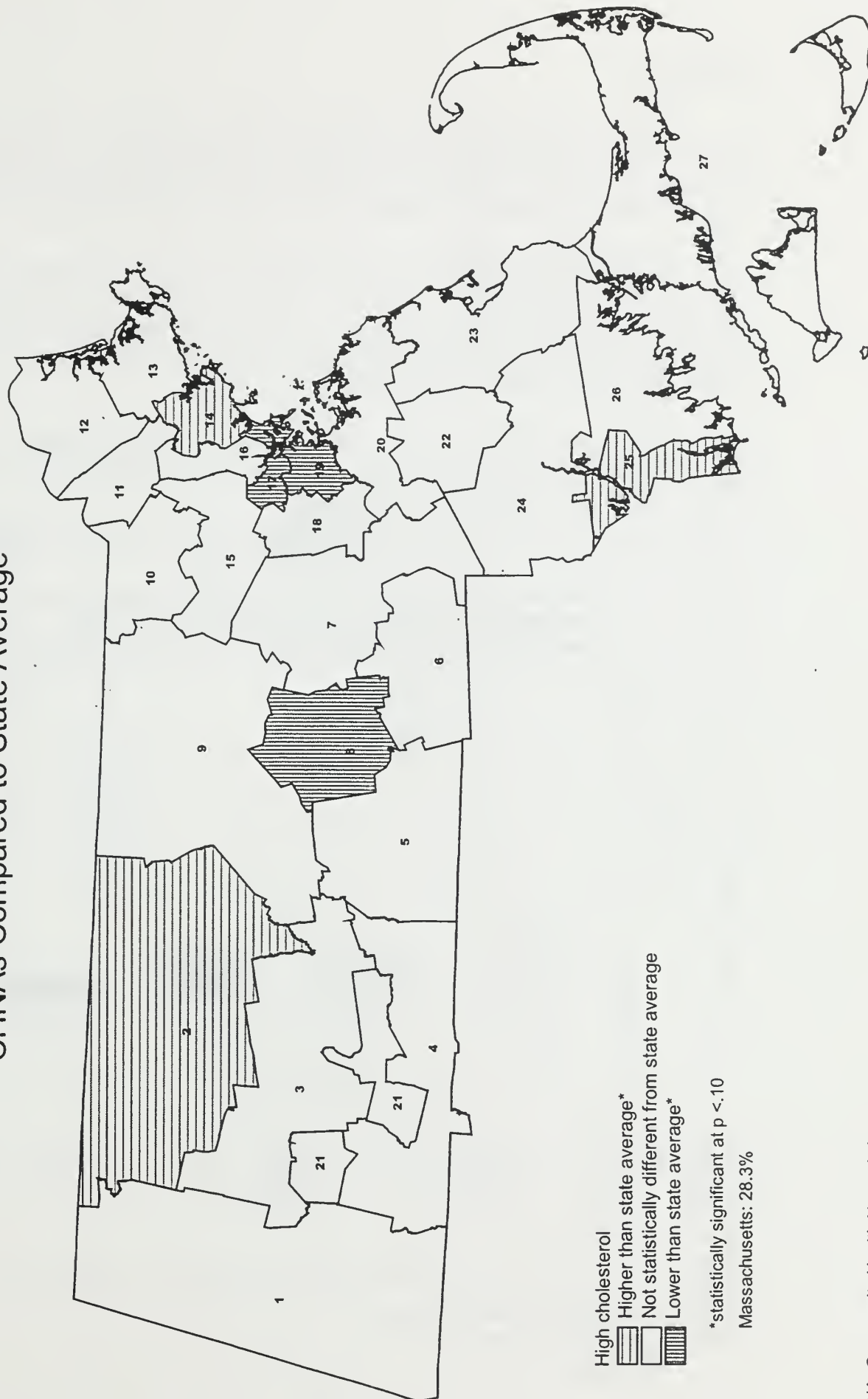


	CHNA	MA
Told have high cholesterol	25.6%	28.3%
95% CI ⁴	20.2-30.9	27.1-29.6

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults with High Cholesterol, CHNAs Compared to State Average

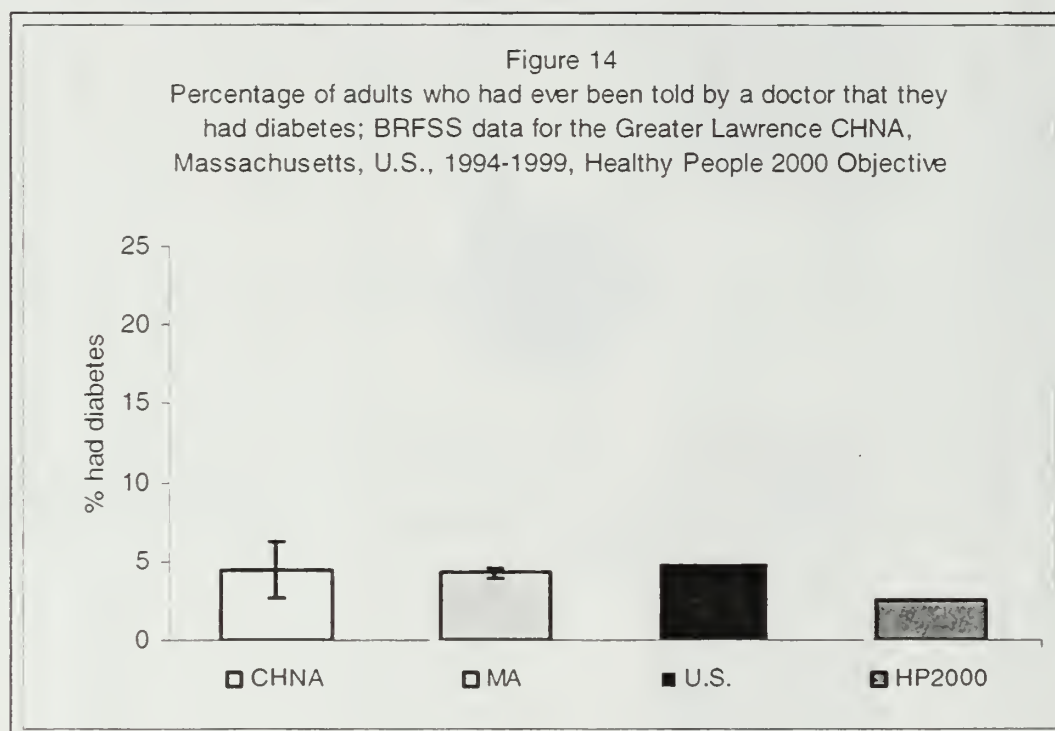


DIABETES

Diabetes mellitus, a chronic condition characterized by elevated blood sugar levels, is a significant contributor to morbidity and mortality in the U.S. Diabetes is the seventh leading cause of death in Massachusetts and can cause debilitating complications such as blindness, renal failure, lower extremity amputations, and cardiovascular disease.

Approximately 200,000 adults in Massachusetts have been diagnosed with diabetes, and a similar number are estimated to have diabetes without being aware of it. Although diabetes occurs among Americans of all ages and racial/ethnic groups, elderly Americans and certain racial/ethnic populations, including blacks, Hispanics, and Native Americans, are more likely to have diabetes.

In the Greater Lawrence CHNA, 4% of adults had ever been told by a doctor that they had diabetes (Figure 14).² The percentage of adults with diabetes was not statistically different from the state average (see map).



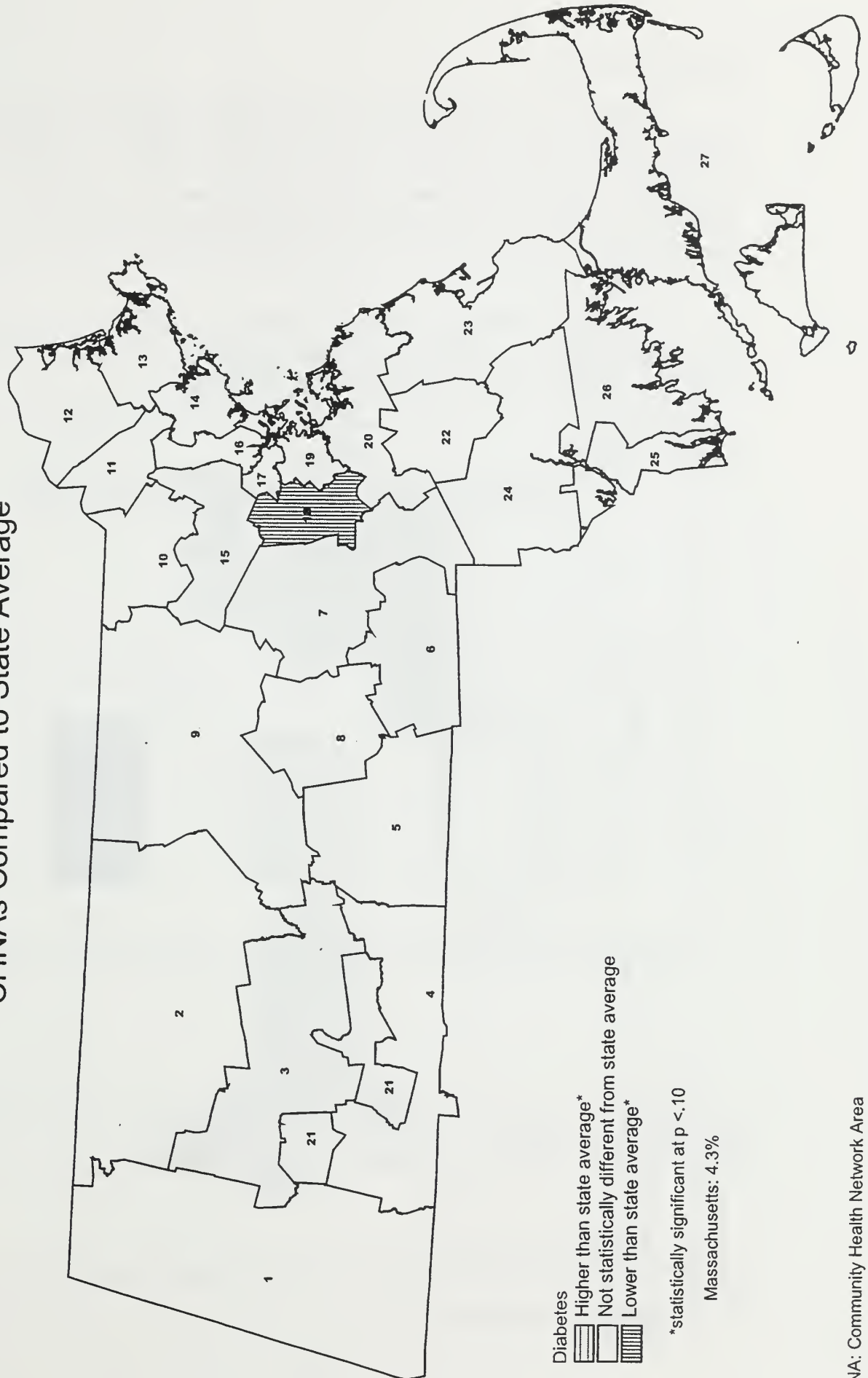
	CHNA	MA	US	HP2000 ³
Told have diabetes	4.4%	4.3%	4.8%	2.5%
95% CI ⁴	2.6-6.2	3.9-4.6		

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

Percentage of Adults with Diabetes, CHNAs Compared to State Average



Diabetes
Higher than state average*
Not statistically different from state average
Lower than state average*

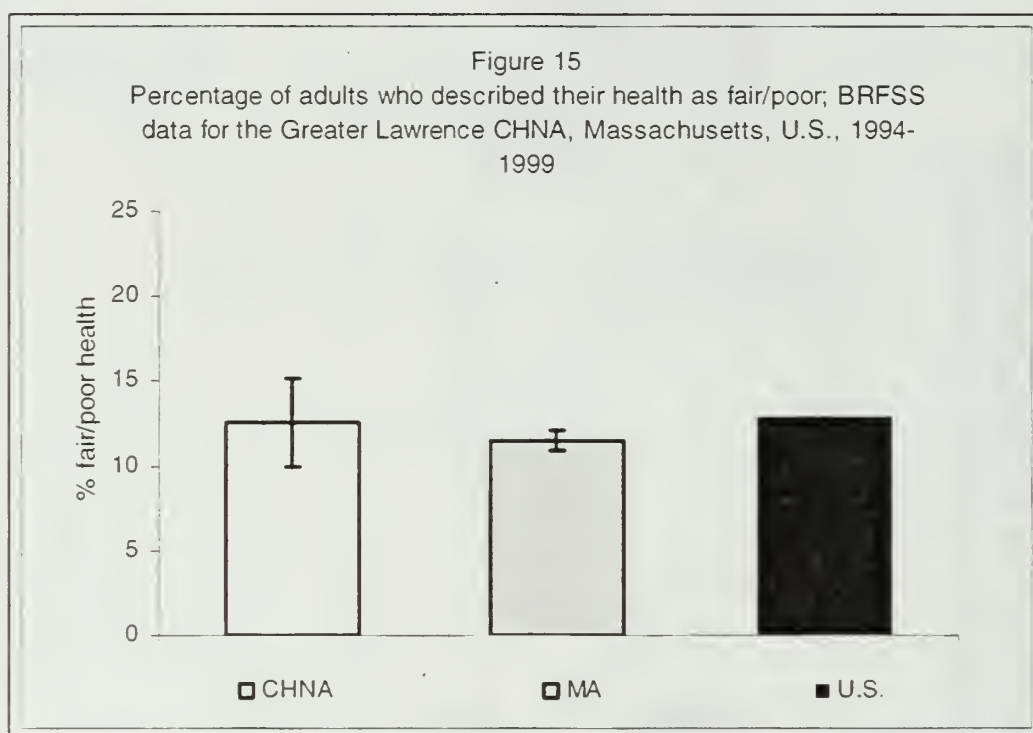
*statistically significant at $p < .10$

Massachusetts: 4.3%

HEALTH STATUS

A description of the diseases and chronic conditions that affect an individual provides an important, but not complete, picture of an individual's overall health and well-being. Another way to assess overall health and well-being is through an individual's self-perception of health status and an evaluation of quality of life indicators. Respondents in this survey were asked to describe their health status, and to assess the number of days that poor physical or mental health prevented them from participating in usual activities.

In the Greater Lawrence CHNA, 13% of the adults felt they were in fair or poor health (Figure 15).² The percentage of adults who felt they were in fair or poor health was not statistically different from the state average (see map).

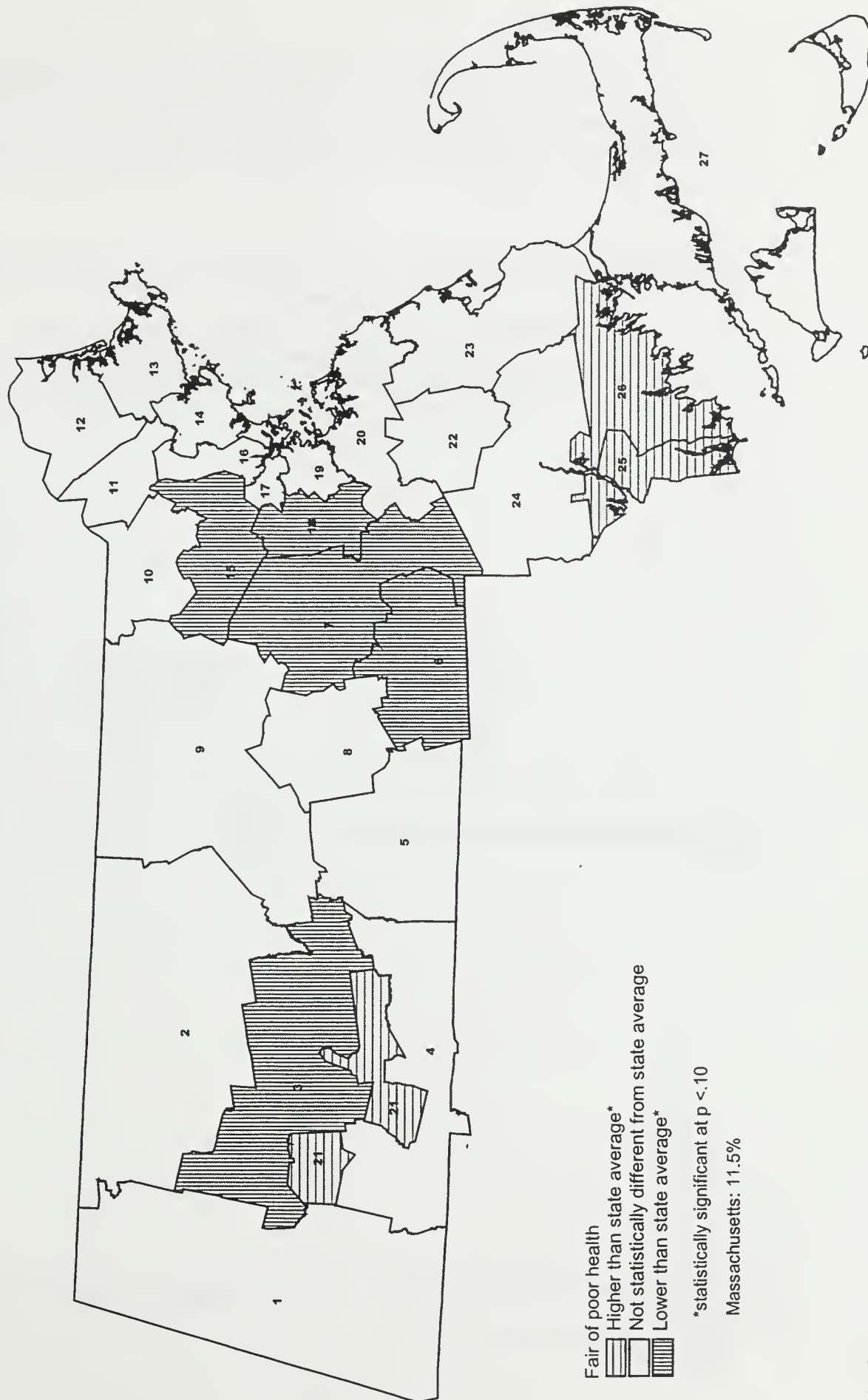


	CHNA	MA	US
Thought health was fair/poor	12.6%	11.5%	12.9%
95% CI ⁴	10.0-15.1	10.9-12.0	

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

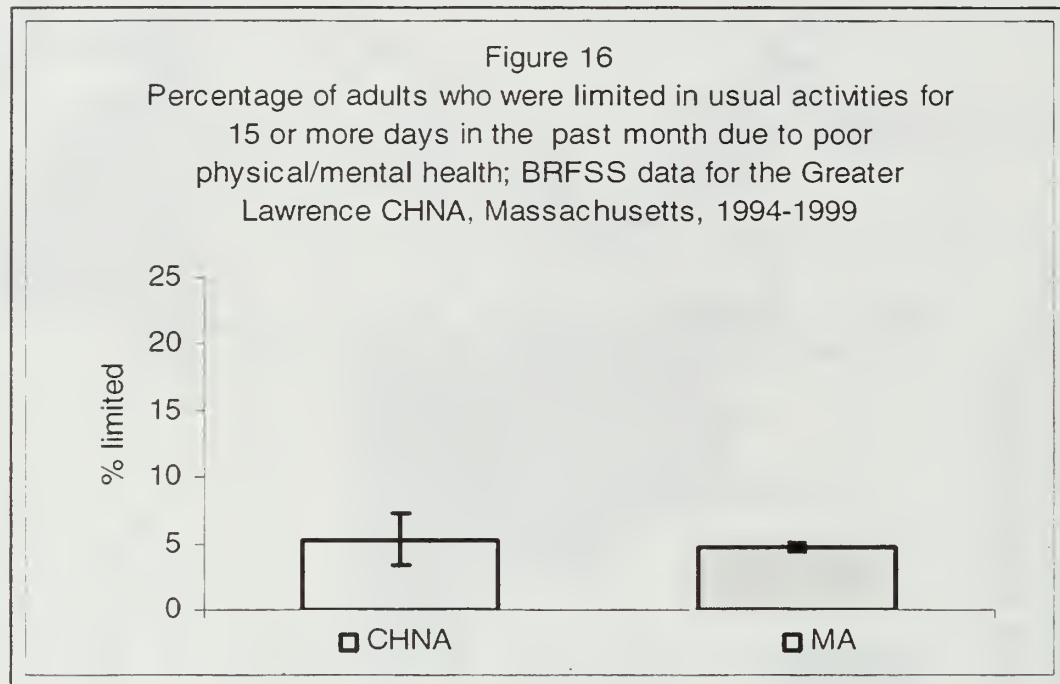
Percentage of Adults in Fair or Poor Health, CHNAs Compared to State Average



Fair of poor health
Higher than state average*
Not statistically different from state average
Lower than state average*

*statistically significant at $p < .10$
Massachusetts: 11.5%

In the Greater Lawrence CHNA, poor physical or mental health prevented 5% of adults from engaging in usual activities, such as self-care, work, or recreation for at least 15 out of the past 30 days (Figure 16).² The percentage of adults who were limited in usual activities due to poor physical or mental health was not statistically different from the state average (see map).

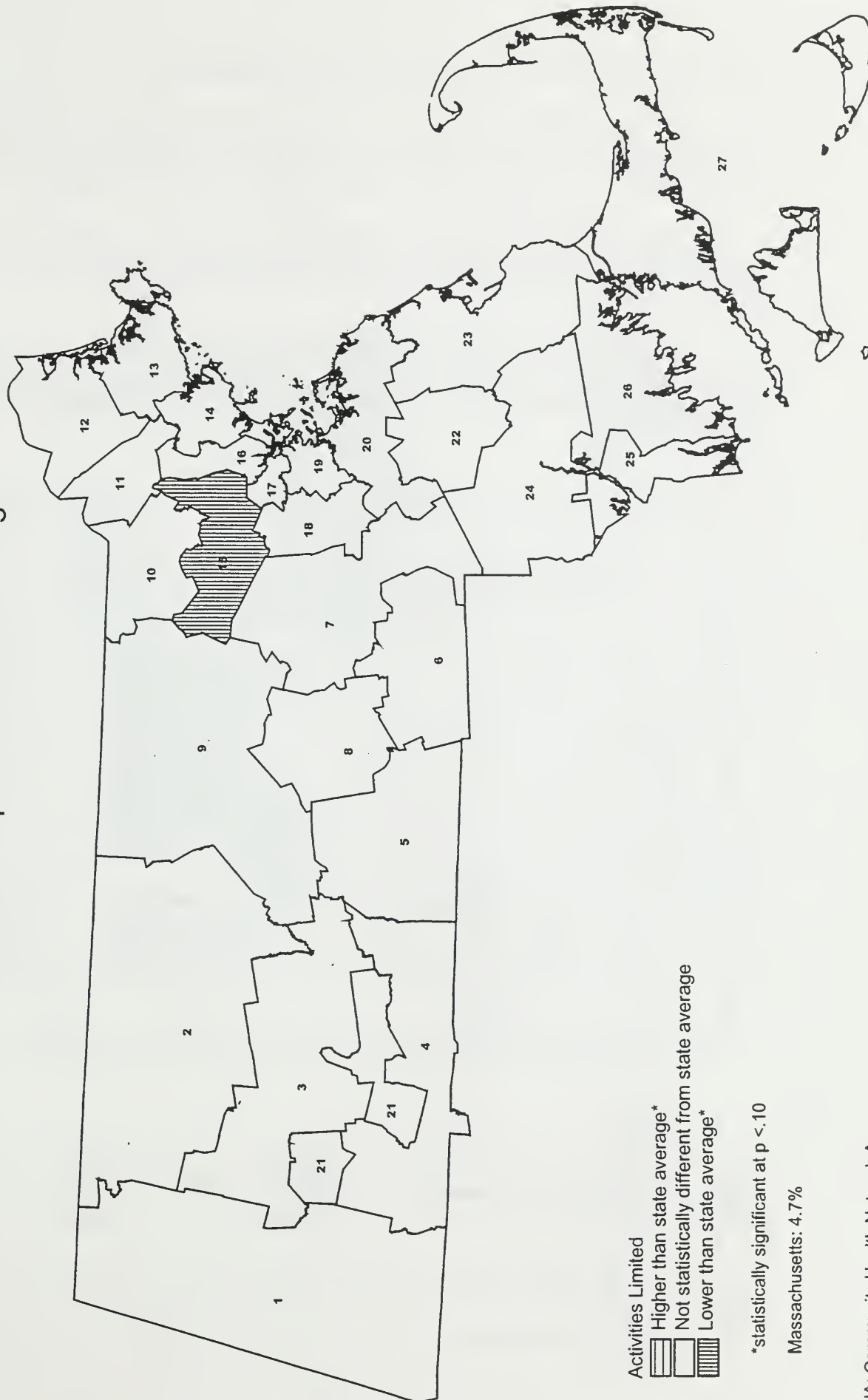


	CHNA	MA
Activities limited for 15 or more days in past month	5.3%	4.7%
95% CI ⁴	3.3-7.3	4.4-5.1

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults whose Usual Activities were Limited due to Poor Health, CHNAs Compared to State Average

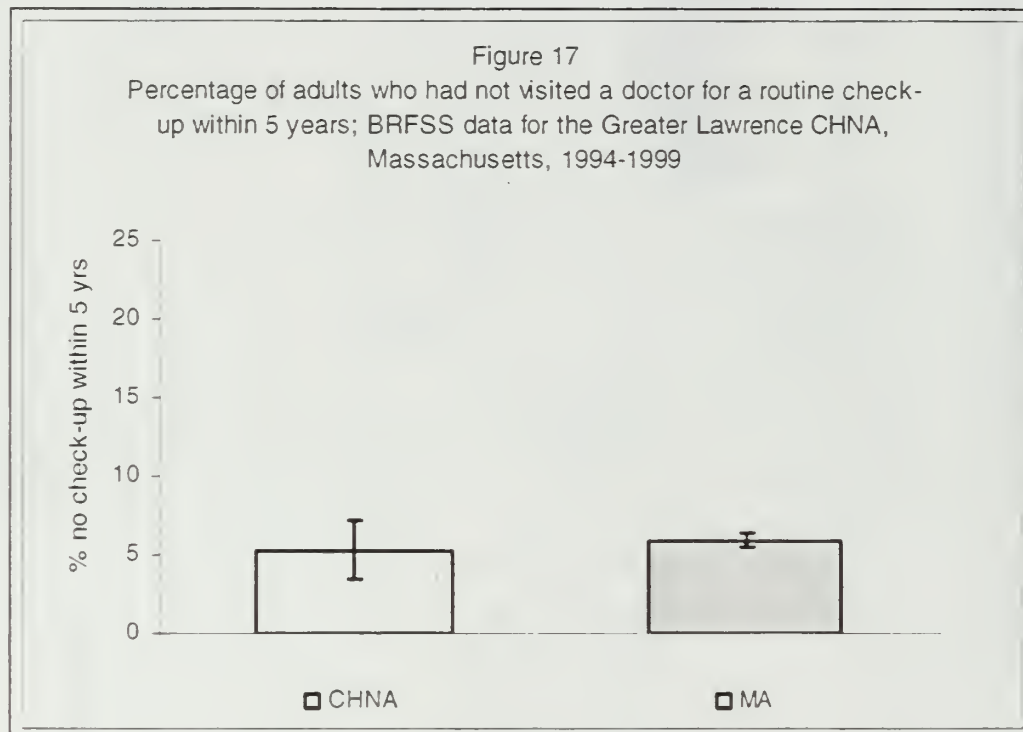


HEALTH INSURANCE, ACCESS, AND UTILIZATION

Access to health professionals for disease prevention and health promotion services, early detection and treatment of acute illness, and management of chronic disease all play an important role in maintaining the health of the population.

Financial barriers can limit overall access to these services. Financial barriers include lack of health insurance and inability to see a doctor because of cost, regardless of insurance status.

In the Greater Lawrence CHNA, 5% of adults had not visited a doctor for a routine medical check-up within 5 years (Figure 17).² The percentage of adults who did not have a routine check-up within five years was not statistically different from the state average (see map).

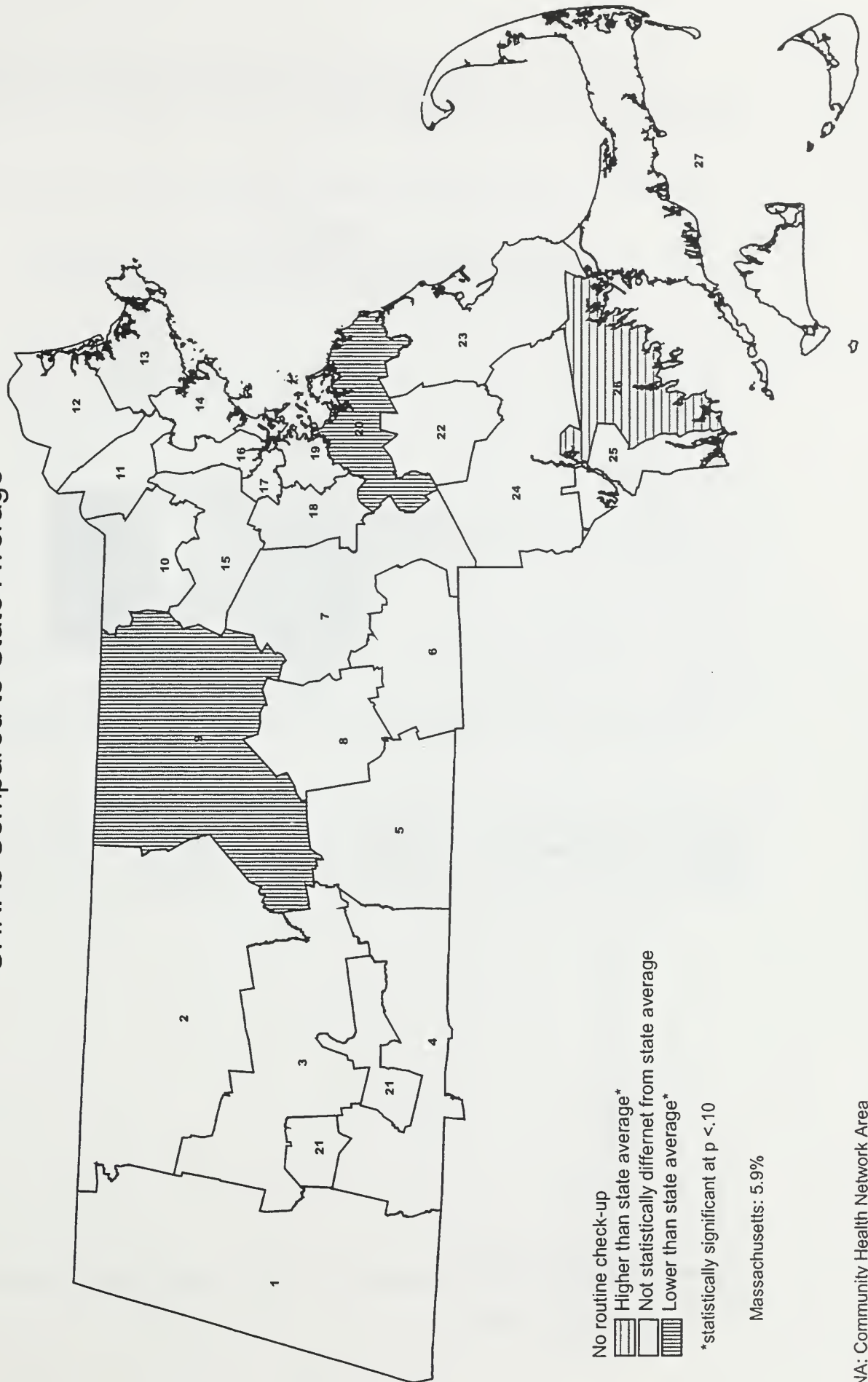


	CHNA	MA
Routine check-up more than 5 years ago	5.3%	5.9%
95% CI ⁴	3.4-7.1	5.5-6.4

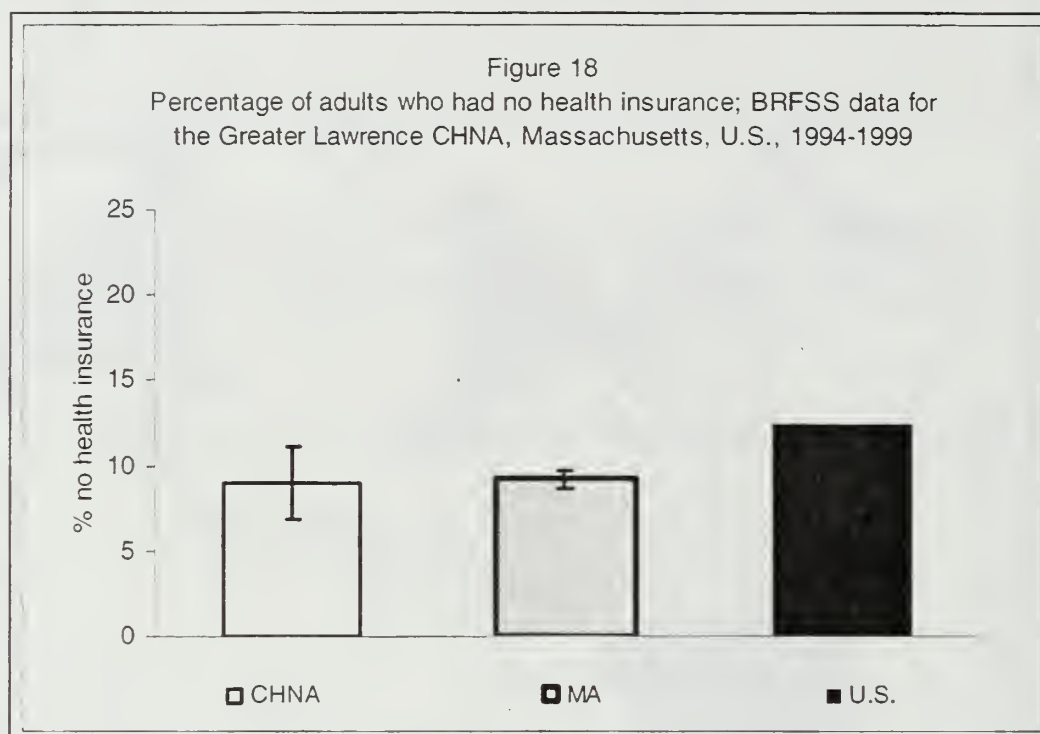
² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults who Have Not Had a Routine Check-up in Past 5 Years, CHNAs Compared to State Average



In the Greater Lawrence CHNA, 9% of adults had no health insurance (Figure 18).² The percentage of adults who had no health insurance was not statistically different from the state average (see map).

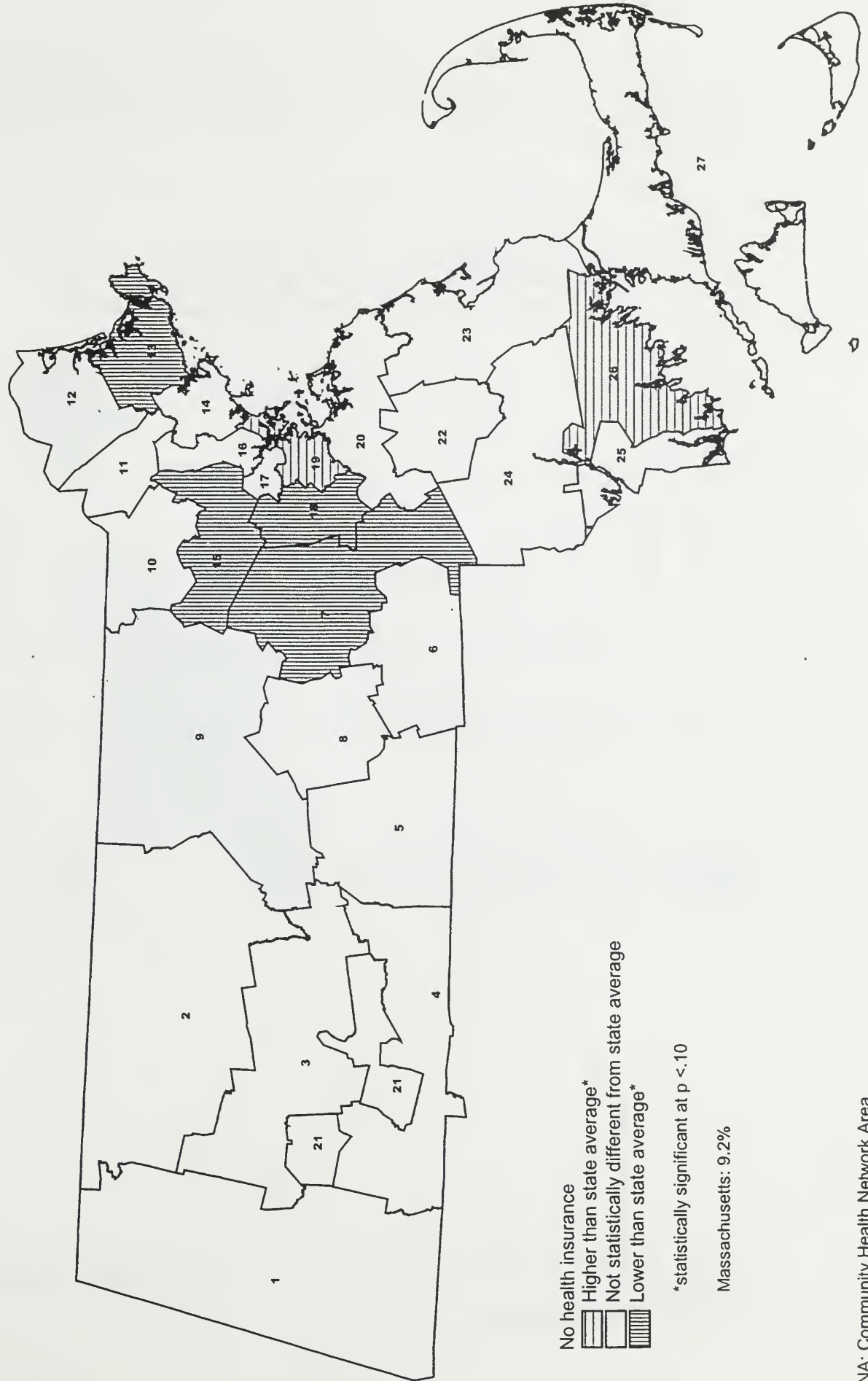


	CHNA	MA	US
Did not have health insurance	9.0%	9.2%	12.5%
95% CI ⁴	6.9-11.1	8.6-9.7	

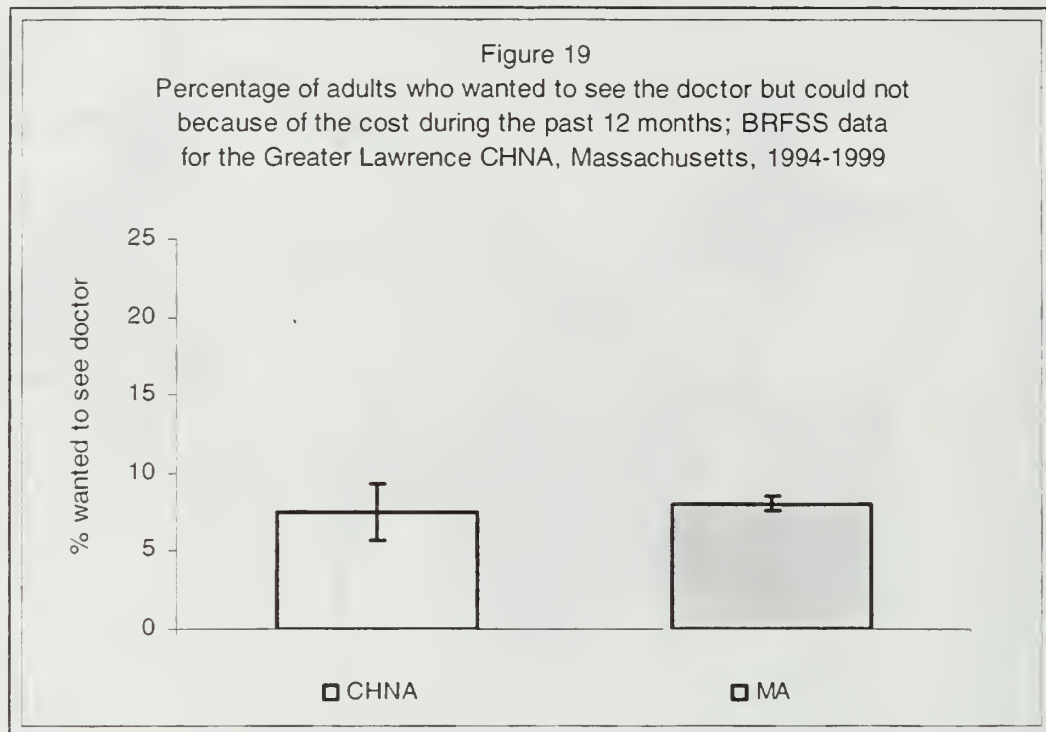
² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults Without Health Insurance, CHNAs Compared to State Average



In the Greater Lawrence CHNA, 8% of adults wanted to see a doctor in the past 12 months but could not because of the cost (Figure 19).² The percentage of adults who were unable to see a doctor due to cost was not statistically different from the state average (see map).

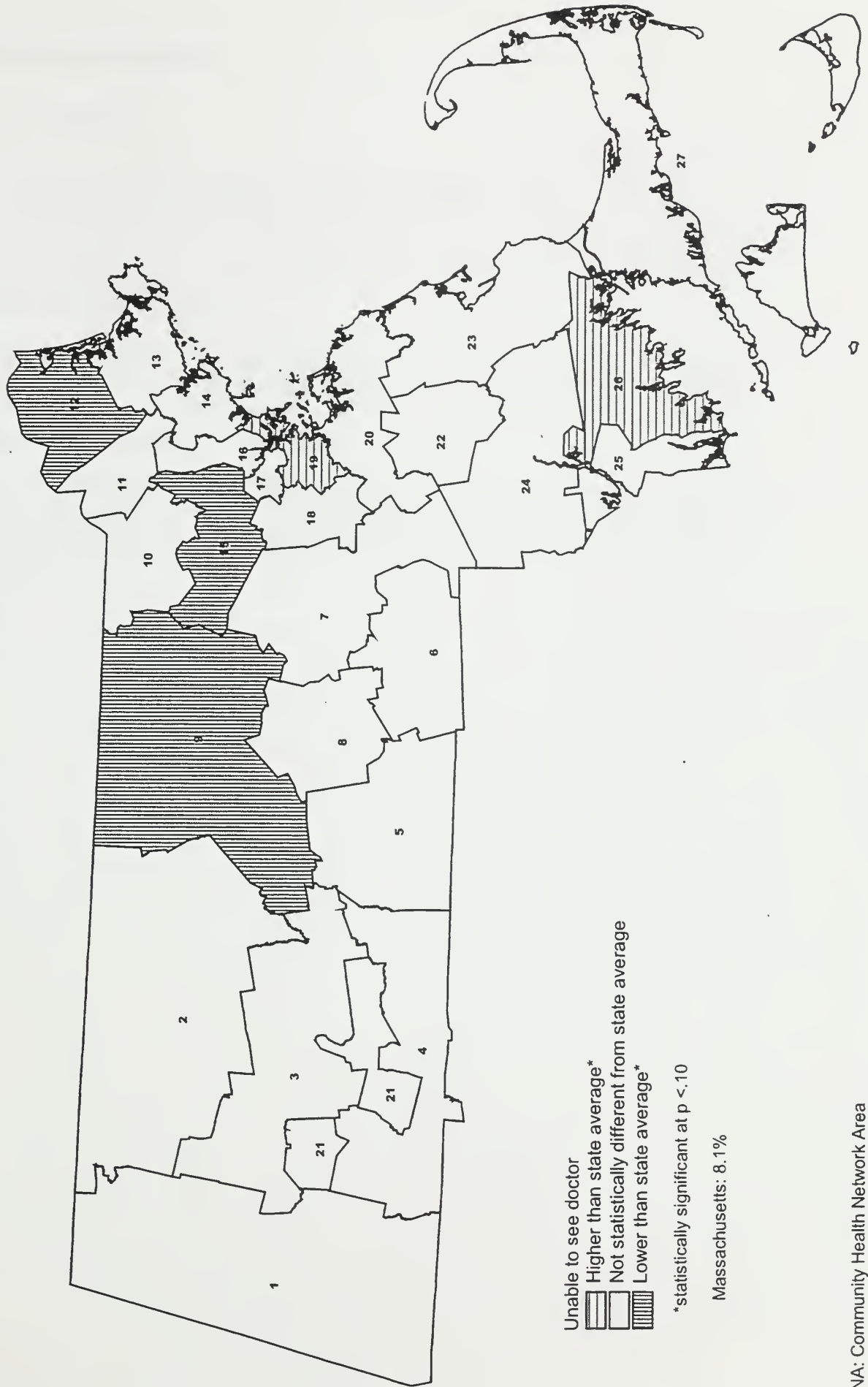


	CHNA	MA
Wanted to see doctor but did not because of cost	7.5%	8.1%
95% CI ⁴	5.7-9.3	7.6-8.6

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults Unable to See Medical Doctor Due to Cost, CHNAs Compared to State Average



CANCER SCREENING

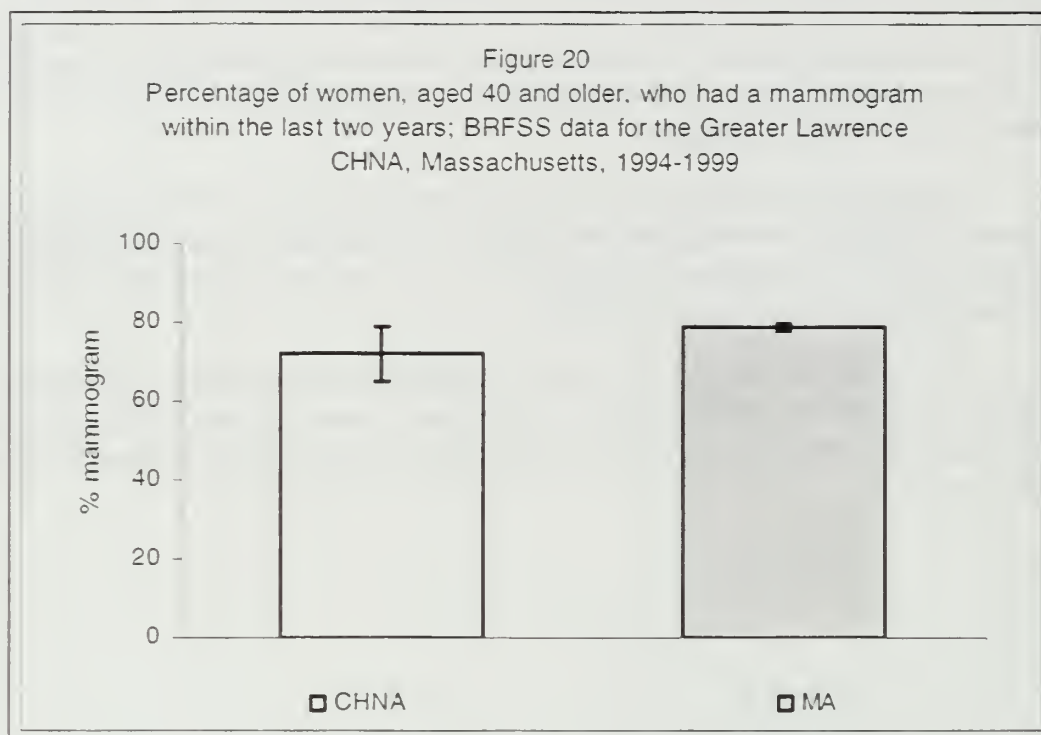
BREAST CANCER

Breast cancer is the most common cancer among women in Massachusetts and the second leading cause of cancer deaths among Massachusetts women. Each year approximately 4,700 women are diagnosed with breast cancer and 1,100 women die of the disease in Massachusetts. Currently, most of the known risk factors for breast cancer are often unalterable. Thus, a primary goal in reducing mortality is early detection of breast cancer through screening.

During the 1994-1996 time period, the American Cancer Society recommended an annual or biennial mammogram from age 40 to 49 and then an annual mammogram starting at age 50. The current American Cancer Society guidelines are for an annual mammogram for women age 40 and older.

The American Cancer Society also recommends that all women older than 20 perform breast self-examination once a month, that women between the ages of 20 to 40 have a clinical breast exam every 3 years, and that women over age 40 have a clinical exam every year.

In the Greater Lawrence CHNA, 72% of women age 40 and older had a mammogram within the last two years (Figure 20).² The percentage of women who received a mammogram within the last two years was significantly lower than the state average (see map).

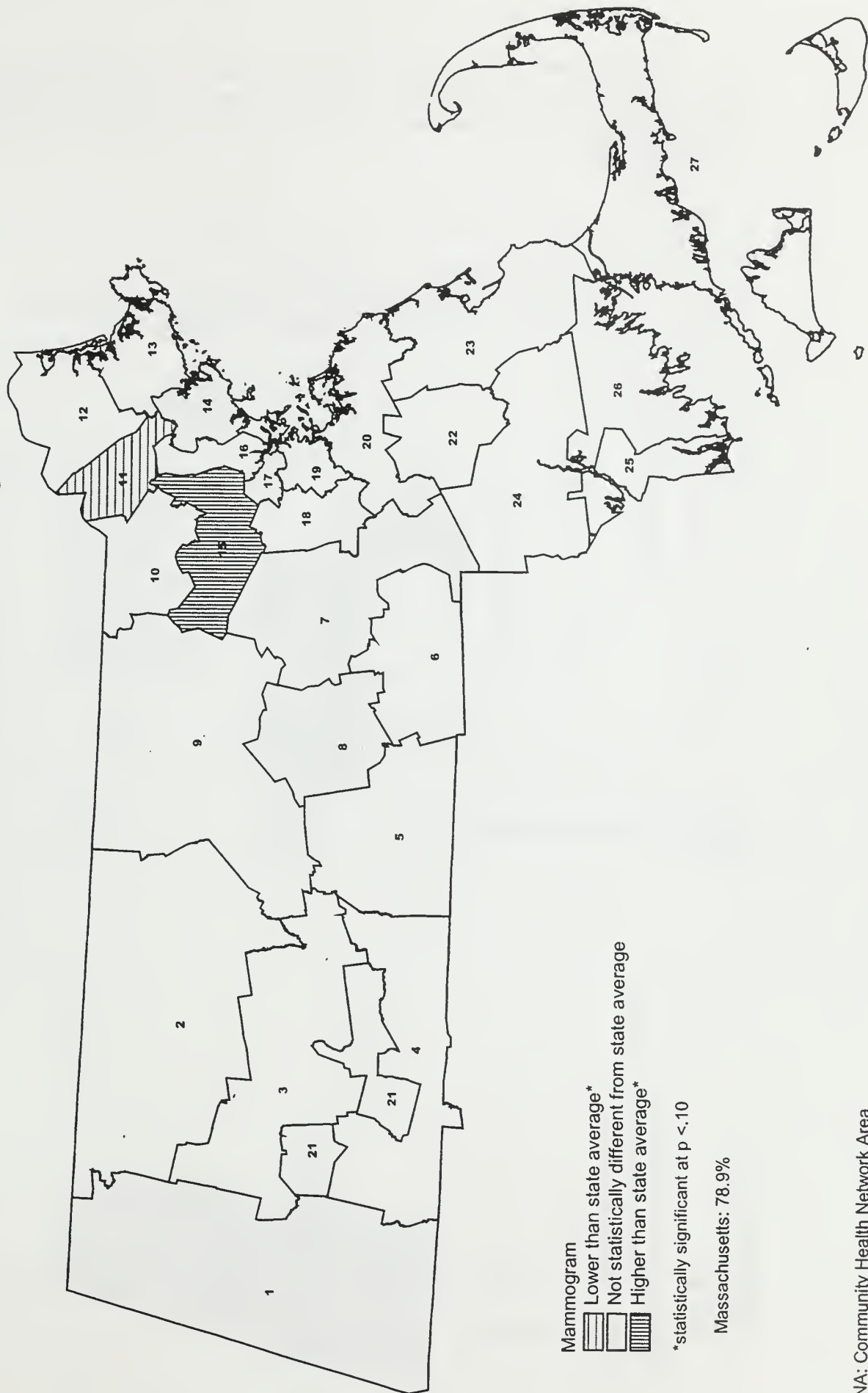


	CHNA	MA
Mammogram within the past 2 years	72.1%	78.9%
95% CI ⁴	65.1-79.2	77.7-80.2

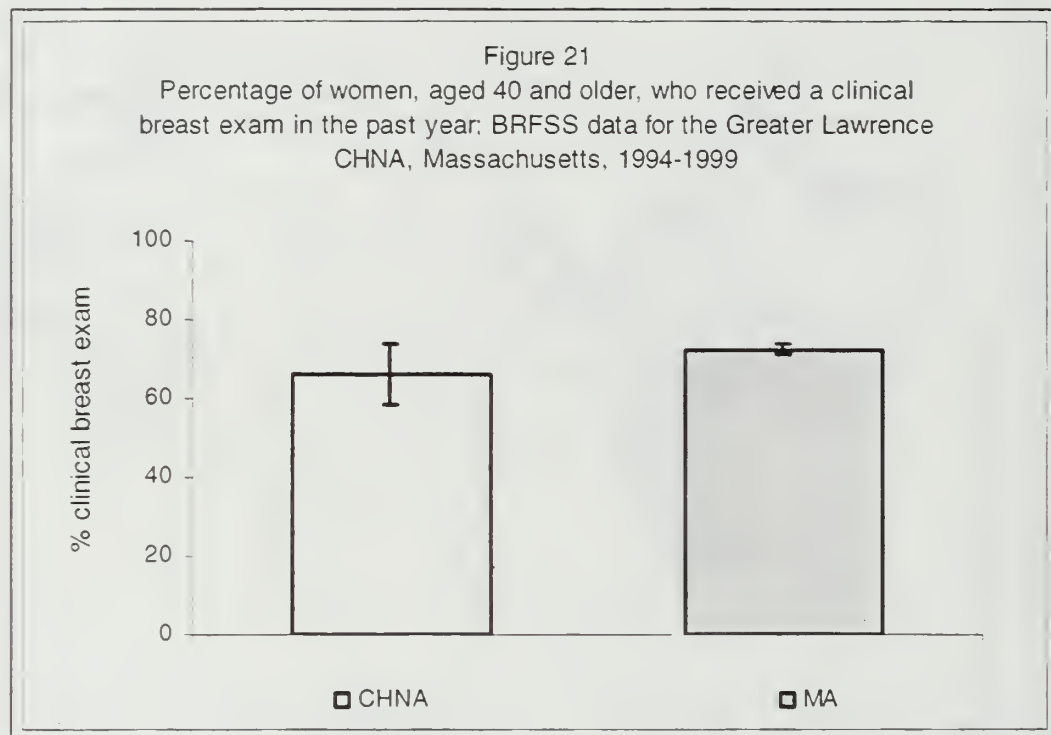
² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Women Age 40 years and Older who Received a Mammogram in Past 2 Years, CHNAs Compared to State Average



In the Greater Lawrence CHNA, 66% of women 40 and older received a clinical breast exam in the past year (Figure 21).² The percentage of women who received a clinical breast exam within the last two years was not statistically different from the state average (see map).

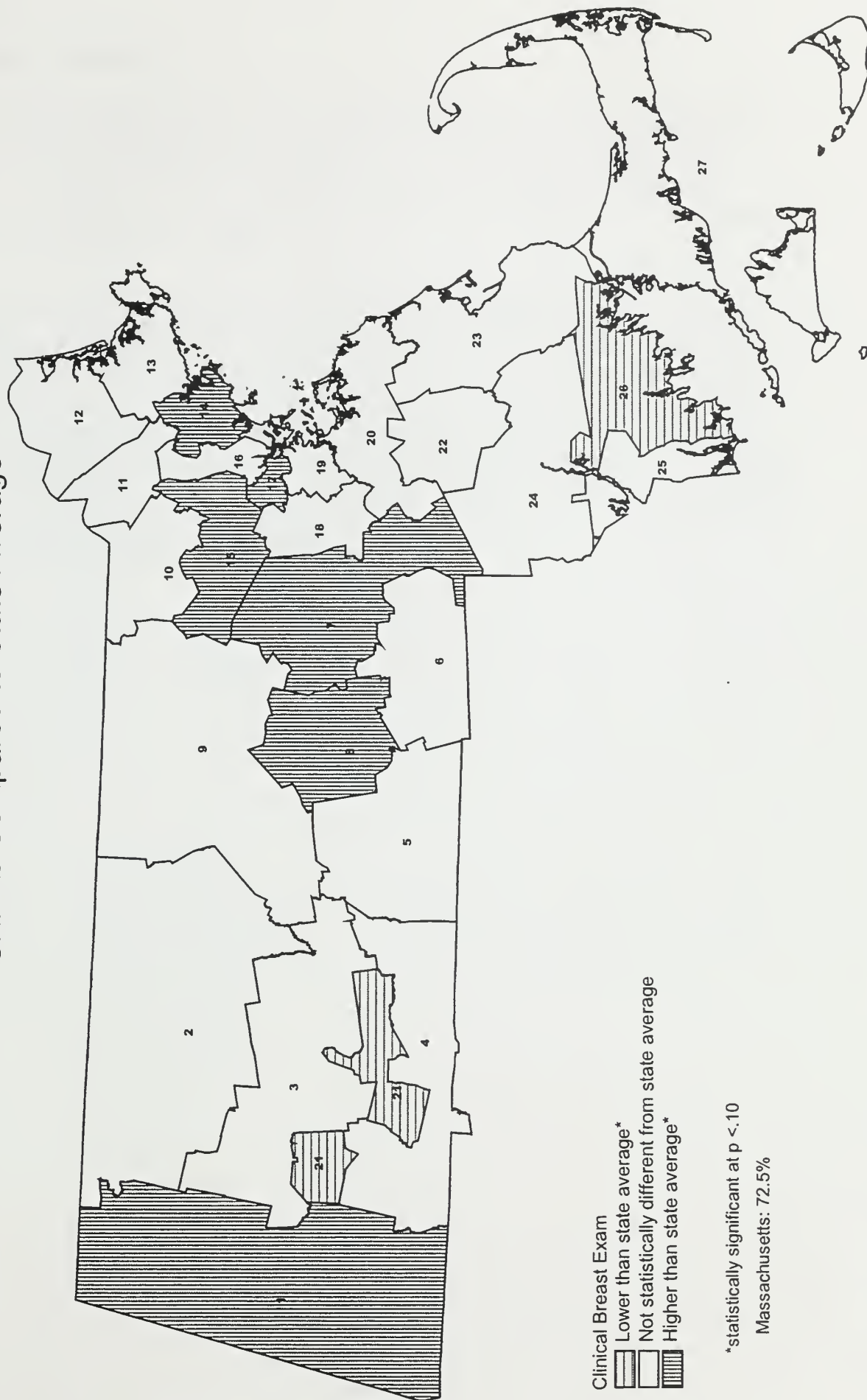


	CHNA	MA
Clinical breast exam in the past year	66.1%	72.5%
95% CI ⁴	58.2-73.9	71.1-73.9

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Women Age 40 years and Older who Received a Clinical Breast Exam in Past Year, CHNAs Compared to State Average

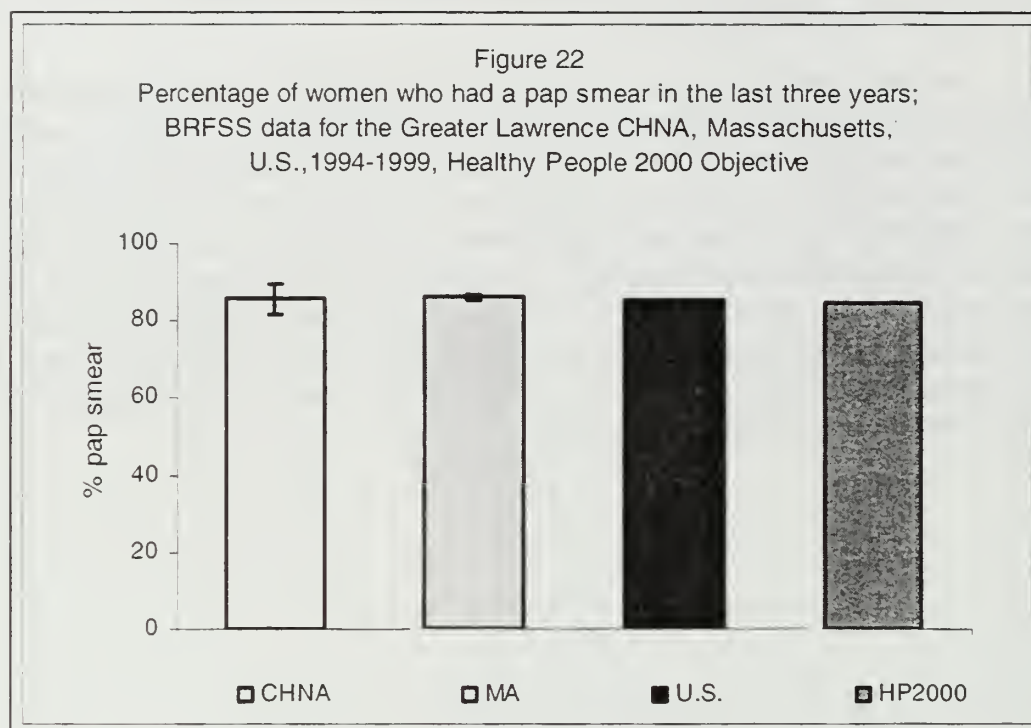


CERVICAL CANCER

Each year, approximately 300 women are diagnosed with invasive cervical cancer and approximately 85 women die of the disease in Massachusetts. Early detection of cervical cancer increases the likelihood of cure. Use of the Papanicolaou (or 'Pap') smear, a screening test to detect early cervical cancer and other abnormalities of the cervix, has contributed to a 74% decrease in the number of deaths due to cervical cancer in the U.S. between 1955 and 1992.

The Pap smear is a simple procedure that can be performed by a health care professional as part of a pelvic exam, and, if performed regularly, can prevent nearly all deaths from cervical cancer. The American Cancer Society recommends that women 18 years of age and older, or younger if sexually active, have an annual Pap smear and pelvic exam. After three or more consecutive, satisfactory, and normal annual exams, the Pap smear may be performed less frequently at the discretion of the physician. However, women classified as high risk for cervical cancer should have an annual Pap smear. Risk factors include certain types of human papilloma virus (HPV, the virus that causes genital warts), sexual intercourse before age 19, multiple sexual partners, intercourse without a condom, smoking, and infection with HIV.

In the Greater Lawrence CHNA, 86% of women who have not had a hysterectomy had a Pap smear test within the last three years (Figure 22).² The percentage of women who had a Pap smear within the last three years was not statistically different from the state average (see map).



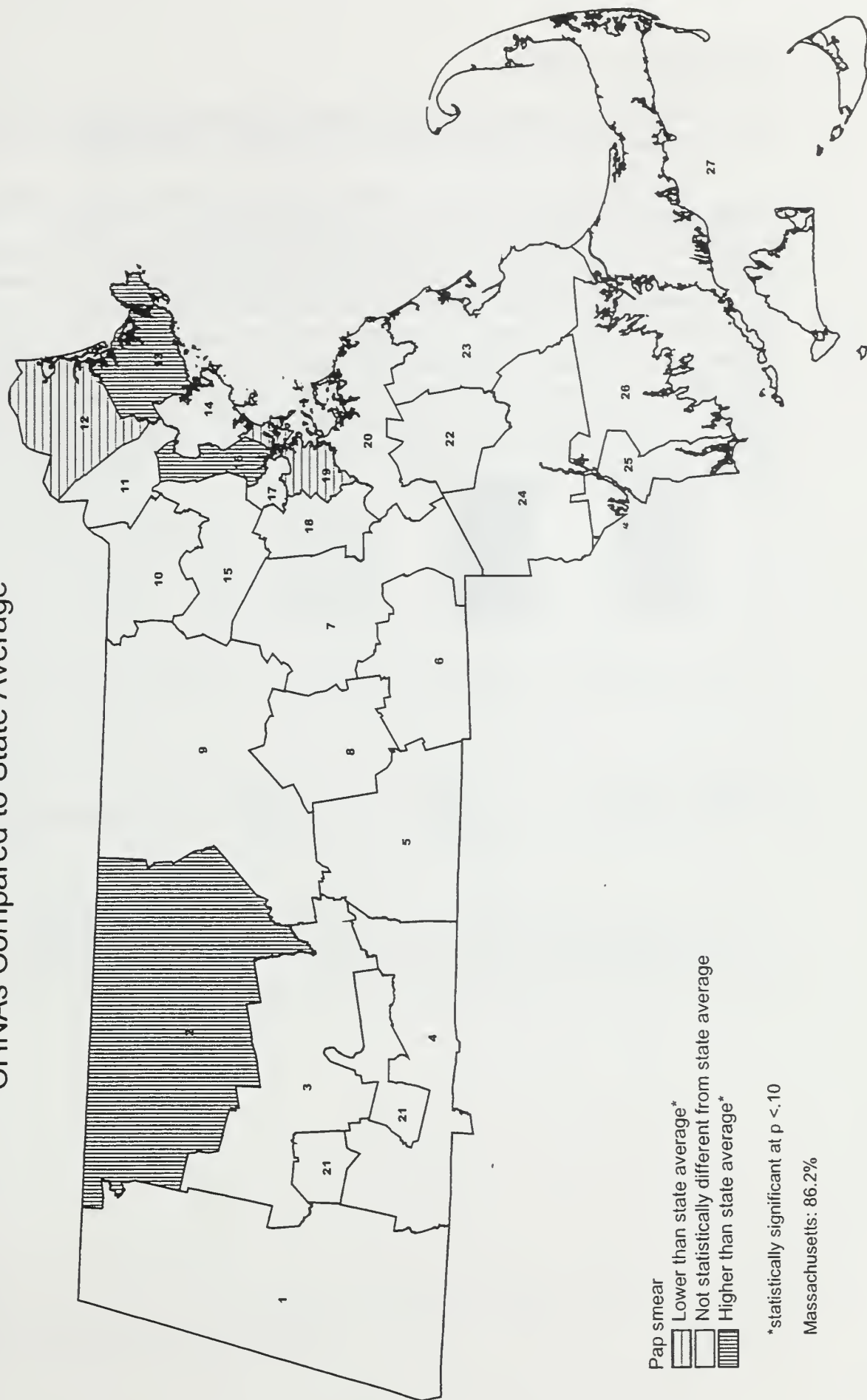
	CHNA	MA	US	HP2000 ³
Pap smear within the past 3 years	85.7%	86.2%	85.5%	85%
95% CI ⁴	81.7-89.7	85.3-87.2		

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

Percentage of Women who Received a Pap Smear in Last 3 Years, CHNAs Compared to State Average

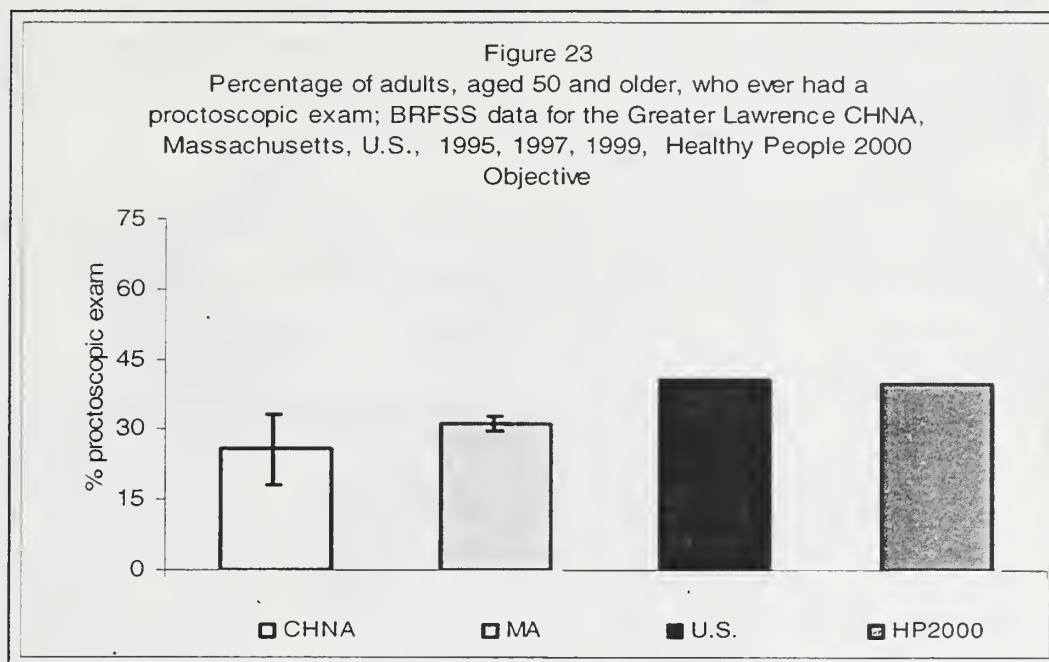


COLORECTAL CANCER

Each year in Massachusetts, approximately 3,800 men and women are diagnosed with colorectal cancer and approximately 1,600 people die of the disease.

The Massachusetts Colorectal Cancer Working Group recommends that men and women age 50 and older have a yearly fecal occult blood test, or a flexible sigmoidoscopy every 5 years, or a home fecal occult blood test every year and a flexible sigmoidoscopy every 5 years, or a colonoscopy every 10 years, or a double-contrast barium enema every 10 years. Individuals with a personal history of colorectal cancer, adenomatous polyps, or chronic inflammatory bowel disease, or a family history of colorectal cancer, polyps, or hereditary colorectal cancer syndromes should begin colorectal screening earlier and/or undergo screening more often. These recommended screening tests offer the best opportunity to detect colorectal cancer at an early stage when successful treatment is most likely, and to prevent the development of some cancers through detection and removal of polyps.

In the Greater Lawrence CHNA, 26% of residents age 50 and older had ever had a proctoscopic exam (flexible sigmoidoscopy or colonoscopy) (Figure 23).²



	CHNA	MA	US	HP2000 ³
Ever had proctoscopic exam	25.7%	31.5%	40.5%	39%
95% CI ⁴	18.1-33.4	30.0-33.0		

“Percentage of adults, aged 50 and older, who ever had a proctoscopic exam (flexible sigmoidoscopy or colonoscopy)” was not provided for all CHNAs due to insufficient numbers of respondents. Therefore a map was not provided for this variable.

² The bars within the CHNA and MA bar graphs are “error bars” and show the width of the 95% confidence intervals.

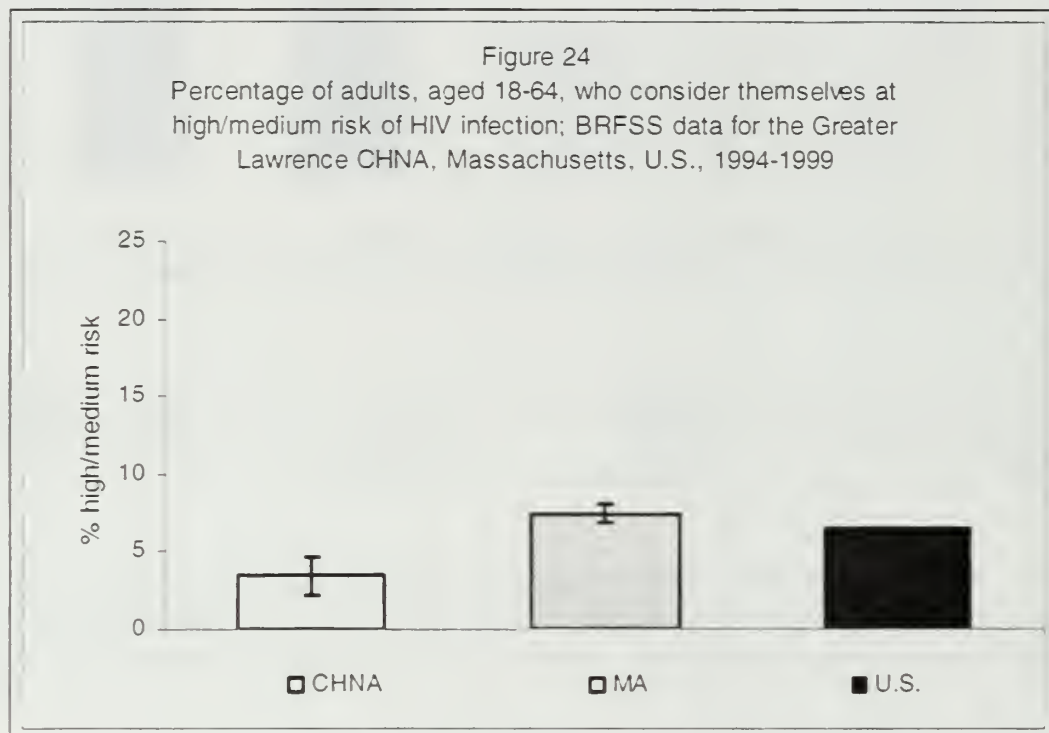
³ Healthy People 2000 Objectives (see Glossary)

⁴ Confidence Interval (see Glossary)

HIV/AIDS

AIDS is the eighth leading cause of death in the U.S. The Massachusetts AIDS Surveillance Program reports that, as of June 1, 1999, a total of 14,509 AIDS cases had been reported in Massachusetts since 1985. The two leading risk factors for HIV transmission in Massachusetts are unprotected sex among males having sex with males and the sharing of needles to inject drugs. The Massachusetts AIDS Bureau recommends that people at high risk, especially those who do not obtain regular medical care, be offered counseling and testing for HIV at every intervention.

In the Greater Lawrence CHNA, 4% of residents age 18 to 64 thought they had a high/medium chance of getting infected with HIV (Figure 24).² The percentage of adults who thought they had a high or medium risk of getting infected with HIV was significantly lower than the state average (see map).

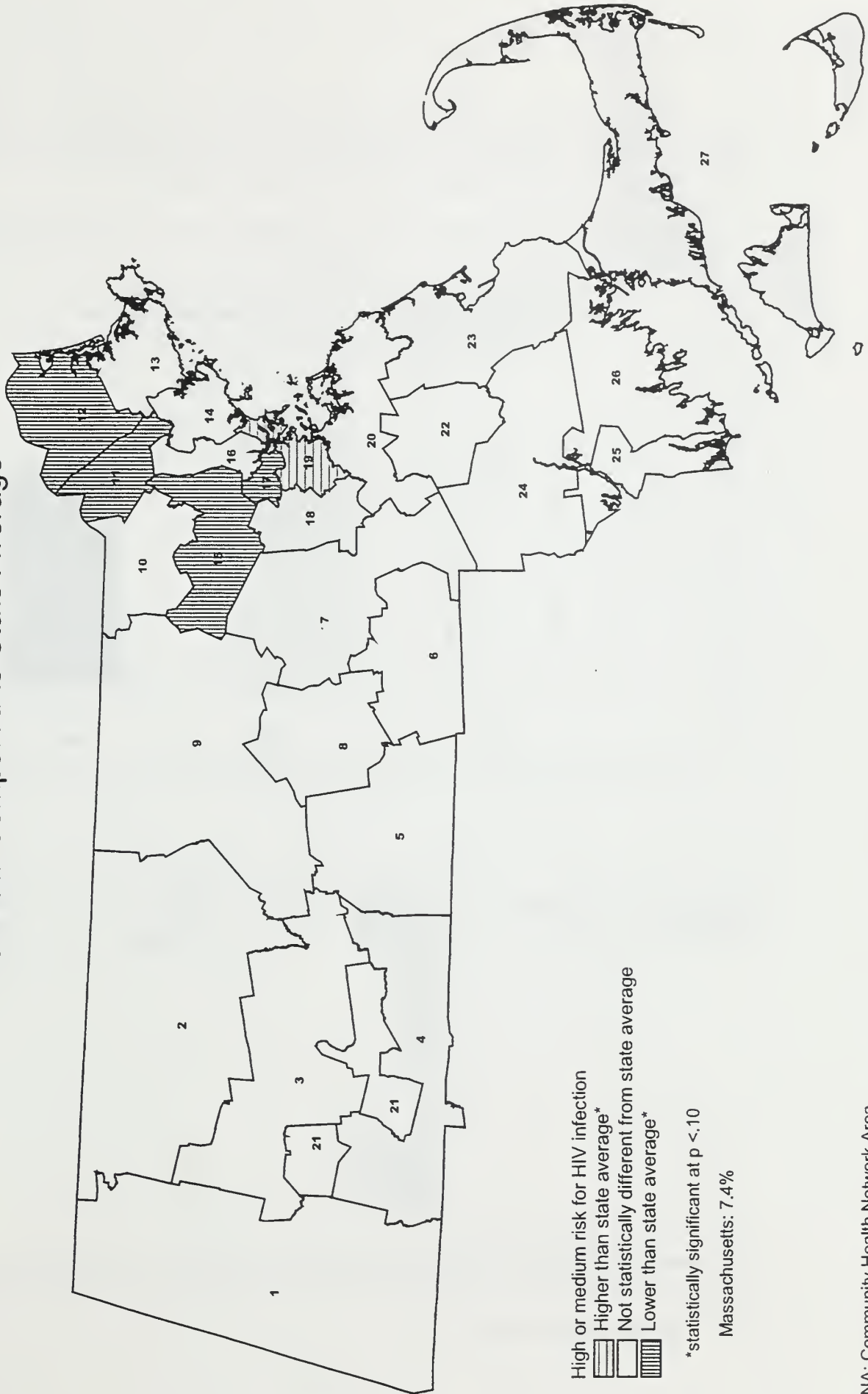


	CHNA	MA	US
High/medium chance of HIV infection	3.5%	7.4%	6.5%
95% CI ⁴	2.2-4.7	6.8-8.0	

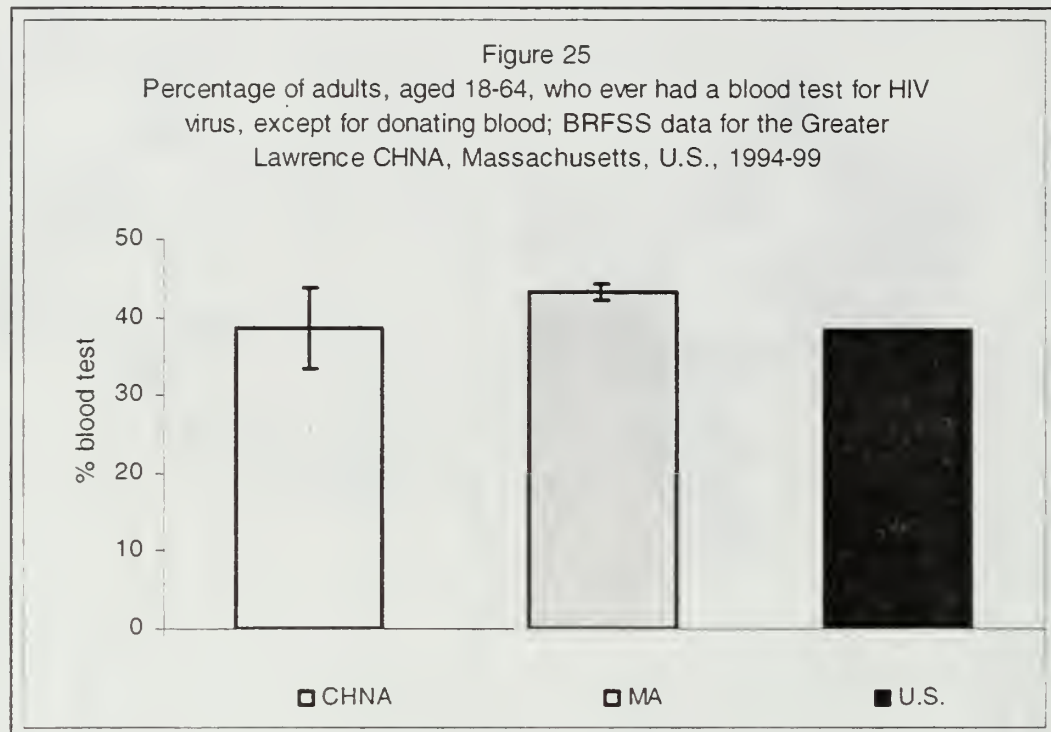
² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults Ages 18-64 years who Reported Being at High or Medium Risk for HIV Infection, CHNAs Compared to State Average



In the Greater Lawrence CHNA, 39% of adults 18 to 64 years have ever had a blood test for HIV⁷ (Figure 25).² The percentage of adults who ever had a blood test for HIV was significantly lower than the state average (see map).



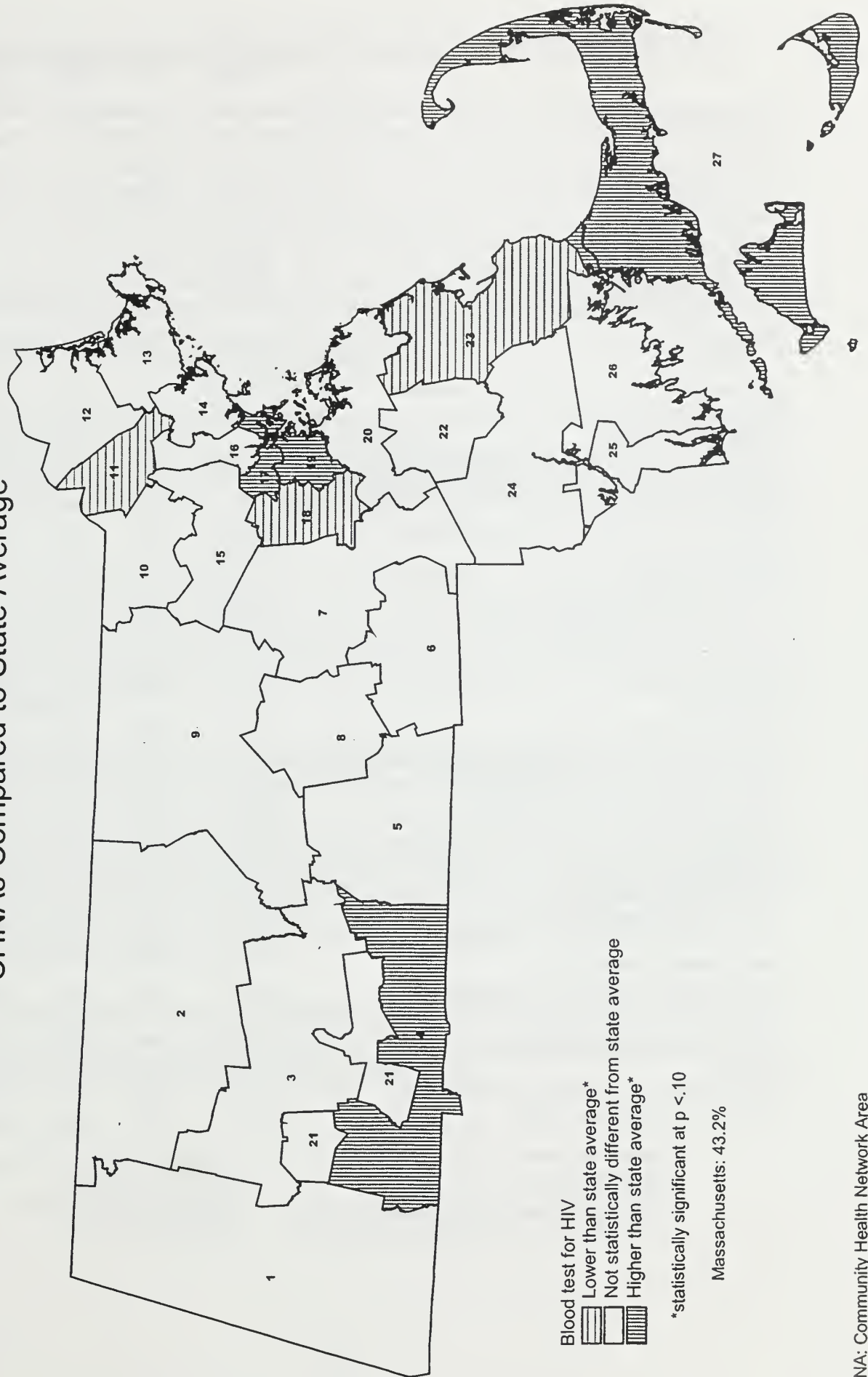
	CHNA	MA	US
Ever had blood test for HIV	38.6%	43.2%	38.4%
95% CI ⁴	33.5-43.7	42.5-44.3	

⁷ Blood tests are performed for several reasons including risk of infection, legal and insurance purposes.

² The bars within the CHNA and MA bar graphs are "error bars" and show the width of the 95% confidence intervals.

⁴ Confidence Interval (see Glossary)

Percentage of Adults age 18-64 years who Ever had a Blood Test for HIV, CHNAs Compared to State Average



SUMMARY OF DATA FOR CHNA OF LAWRENCE, MA, US, HP 2000 OBJECTIVES

	YEAR	N ⁸	CHNA (%)	MA (%)	US (%)	HP2000 (%)
RISK FACTORS						
<i>Smoking</i>						
Current smoker	94-99	1311	19.6	21.2	22.9	15
Quit smoking at least 1 day in past year ⁹	94-99	259	47.3	53.0		50
<i>Alcohol</i> ¹⁰						
Had 5 or more drinks at least once in the past month	95,97,99	795	14.5	17.9	14.4	
Had 60 or more drinks in the past month	95,97,99	786	2.9	3.8	3.1	
Drove after drinking too much in the past month	95,97,99	800	1.5	2.7	2.2	
<i>Weight Control</i>						
Overweight	94-99	1248	26.5	25.8	30.3	20
<i>Physical Activity</i>						
Participated in physical activities in the past month	94,96,98	513	70.2	75.3	71.2	85
Regularly physically active ¹¹	94,96,98	513	28.1	31.3		
<i>Fruits and Vegetables</i>						
Consume 5 or more servings of fruits and vegetables/day	94,96,98	513	30.8	29.1	23.6	50
CHRONIC CONDITIONS/PREVENTIVE HEALTH						
<i>Hypertension Awareness</i>						
Had blood pressure checked within the last 2 years	95,97,99	789	92.4	95.5	94.3	
Ever told had high blood pressure ¹²	95,97,99	796	21.1	21.6	22.7	
<i>Cholesterol Screening</i>						
Had cholesterol checked in last 5 years	95,97,99	790	73.9	75.5	69.7	75
Ever told had high cholesterol ¹³	95,97,99	582	25.6	28.3		
<i>Diabetes</i>						
Ever told had diabetes	94-99	1314	4.4	4.3	4.8	2.5
<i>Health Status</i>						
Reported health was fair or poor	94-99	1312	12.6	11.5	12.9	
Prevented from usual activities by poor physical/mental health	94-99	1302	5.3	4.7		
<i>Health Insurance, Access and Utilization</i>						
Routine checkup more than 5 years ago	94-99	1307	5.3	5.9		
Had no health insurance	94-99	1315	9.0	9.2	12.5	
Wanted to see doctor but could not because of cost	94-99	1310	7.5	8.1		
CANCER SCREENING						
<i>Breast Cancer Screening</i>						
Had mammogram in last two years ¹⁴	94-99	417	72.1	78.9		
Received clinical breast exam in the past year ¹⁴	94-99	415	66.1	72.5		
<i>Cervical Cancer Screening</i>						
Had a Pap-smear within the last three years ¹⁵	94-99	720	85.7	86.2	85.5	85
<i>Colorectal Cancer Screening</i>						
Ever had a proctoscopic exam ¹⁶	95,97,99	388	25.7	31.5	40.5	40
AIDS/HIV ¹⁷						
High/medium chance of getting the AIDS virus	94-99	1014	3.5	7.4	6.5	
Ever had a blood test for AIDS	94-99	992	38.6	43.2	38.4	

⁸ Number of respondents to each question

⁹ Among current smokers

¹⁰ Includes individuals who consume no alcohol

¹¹ 30 minutes of physical activity at any intensity 5x per week

¹² Among adults who had ever had blood pressure checked

¹³ Among adults who had ever had cholesterol checked

¹⁴ Among women 40 and older

¹⁵ Among women without hysterectomy

¹⁶ Among adults age 50 and older

¹⁷ Among adults age 18-64

TECHNICAL NOTES

The BRFSS has been conducted in Massachusetts since 1986 as a cooperative effort between the national Centers for Disease Control and Prevention and the Massachusetts Department of Public Health (MDPH). In 1994-1999, the BRFSS was conducted for the MDPH by Northeast Research (1994-1996) and Macro International (1997-1999), using a list-assisted random-digit-dial sampling methodology. Telephone numbers were randomly selected, and multiple attempts were made to reach each phone number. To be eligible for the survey, the telephone had to serve a household in which at least one adult eighteen years or older resided. Persons residing in institutions, group quarters of ten or more unrelated adults, and temporary residences for less than a month, such as summer homes, were not eligible for the survey.

One adult from each household was randomly selected to complete the interview. No substitute respondents were allowed to complete the interview in place of the selected adult. In addition, no one could assist the selected adult in completing the interview if the selected adult had difficulty in participating for any reason, such as a language barrier or disability.

A total of 3,288 interviews were completed statewide in 1994, 3,311 in 1995, 3,041 in 1996, 3,725 in 1997, 4,944 in 1998, and 5,023 in 1999. Interviews were completed in 54-74% of eligible households. Interviews were not completed in 2% of households due to language barriers and in 1% of households due to disability of the selected respondent.

The information provided in this report is intended to be an estimate of the prevalence of risk factors and conditions in the adult population of the state and the CHNA. Therefore, the data are weighted to account for the probability of being selected as a respondent, including the number of phones and number of adults in the household. The Massachusetts data and CHNA-specific data are then further adjusted to the sex-age-race distribution of the adult population of Massachusetts. U.S. estimates were calculated as the average of the annual national medians, derived from the 1994-1999 national BRFSS Summary Prevalence Reports.

Analyses in this report were conducted using two computer programs -- SAS and SUDAAN. The latter was used to calculate 95% confidence intervals that accounted for the weighting and complex sampling design of the survey.

Potential sources of error in the BRFSS should be taken into account when interpreting the data. First, households without telephones do not have the opportunity to be included in the sample. According to the 1990 census, 2% of all Massachusetts households do not have a telephone; however, 10% of households below poverty level lack a phone. Among those eligible, selected respondents may be unable or unwilling to participate. Inability to participate may be due to language barriers (the survey is conducted in English, Spanish, or Portuguese), disability, or temporary absence from the household. As with all surveys that collect self-reported data on behaviors, biased response is another source of concern. Respondents may over-report socially desirable behaviors, while underreporting behaviors they perceive to be socially unacceptable. Respondents may also have difficulty recalling the frequency or the time frame of various behaviors. Finally, because the BRFSS surveys a sample of Massachusetts adults, results could differ to some extent from results of another sample taken from the same population due to chance alone.

GLOSSARY

CHNA

A CHNA is defined as an aggregation of cities and towns. The Department of Public Health, in collaboration with health service providers, coalition members, and interested citizens has designated 27 areas for community health planning. In each of these areas, the Department has fostered the development of Community Health Networks -- consortia of health care providers, human service agencies, schools, churches, youth, parents, elders, advocacy groups, and individual consumers -- to address the health needs of the community.

Confidence Interval

While we are interested in the true proportion of adults with risk factors or disease in the population, we cannot know this unless we ascertain the status of everyone in the population. Because this is not feasible, we instead take a random sample from the population. This sample is subject to statistical variation. Two successive surveys of the same population may not yield the same observed proportion, even though the true underlying proportion of the population was unchanged.

The 95% confidence interval (CI) for the estimate is a range of values that has a 95% chance of including the true proportion in the population, if there is no bias. The confidence interval describes the precision of an observed estimate of the underlying proportion, with a wider interval indicating less certainty about this estimate. The main factor affecting the width of the CI is the number of respondents.

Readers should note that not all values within the confidence interval are equally likely. Values close to the estimate are more likely than values near the end points of the confidence interval. For example, the estimate for the percentage of adults in the Greater Lawrence CHNA who are current smokers is 19.6%. The 95% confidence interval for this estimate is 16.2-23.1%. However, upon repeated surveys, half of the values would be expected to fall within the range 18.4-20.8%.

Healthy People 2000 Objectives

The Healthy People 2000: National Health Promotion and Disease Prevention Objectives was a national agenda that aimed to significantly improve the health of the American people in the decade preceding the year 2000. (Healthy People 2010 Objectives for the coming decade have recently been released.) Developed through an extensive governmental, professional, and public national process, Healthy People 2000 defined three broad national goals: to increase the span of healthy life; to reduce health disparities; and to achieve access to preventive services for all. These goals were supported by 300 specific objectives that set priorities for public health during the 1990's. The objectives were organized into 22 priority areas such as physical activity and fitness, nutrition, and tobacco. For each objective, a numeric national target for the year 2000

was set. For each CHNA health status indicator which has a corresponding Healthy People 2000 Objective, that year 2000 target is shown in the relevant graphs and tables.

Median

The median is the middle observation; i.e. the one that divides the distribution into halves. It is also equal to the 50th percentile.

P-value

A small p-value (aka “statistically significant”) suggests that it is unlikely that the difference in the estimates would have been observed if there were truly no difference between the CHNA estimate and the statewide average. In other words, a small p-value suggests that the difference between the CHNA and the state is not likely due to chance. A large p-value (aka “not statistically significant”) can mean one of two things. First, there really is no difference between the two estimates. For example, the prevalence of overweight adults is truly the same in the CHNA compared to the rest of the state. Second, there really is a difference between the two estimates but the sample size of the CHNA was too small to detect it.

Both the magnitude of the difference between the estimates and the sample sizes influence the calculation of the p-value. For the purposes of this report, those differences between the CHNA and the statewide average that have a p-value less than or equal to 0.10 are considered to be statistically significant.

APPENDIX

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

	Smoking		Alcohol ²			Weight Control	
	Current smoker (%)	Quit smoking at least one day in past year ¹ (%)	5 or more drinks at least once in past month (%)	60 or more drinks in the past month (%)	Drove after drinking in past month (%)	Overweight (%)	
1 Berkshire County	22.8	*	18.1	3.9	2.6	22.9	
2 Franklin County	18.5	*	16.8	3.7	2.5	30.9	
3 Greater Northampton	23.7	*	18.1	0.8	1.9	27.4	
4 Greater Springfield	24.7	51.9	14.0	3.2	1.2	33.1	
5 Greater Southbridge	20.9	*	18.8	4.7	7.2	33.6	
6 Greater Milford	23.9	*	20.1	4.2	1.5	25.6	
7 Greater Framingham	16.1	52.7	15.9	3.7	2.9	21.6	
8 Greater Worcester	20.6	51.4	18.9	6.5	2.7	26.0	
9 Fitchburg/Gardner	20.6	45.3	15.4	5.4	1.7	27.4	
10 Greater Lowell	21.3	49.4	18.4	3.4	1.6	28.1	
11 Greater Lawrence	19.6	47.3	14.5	2.9	1.5	26.5	
12 Greater Haverhill	20.0	*	14.5	2.3	0.3	28.9	
13 Greater Beverly/Gloucester	23.5	*	17.5	1.2	2.4	23.6	
14 North Shore	19.7	58.2	14.9	1.3	2.5	27.5	
15 Greater Woburn/Concord/Littleton	15.0	*	11.7	4.3	1.8	22.3	
16 Greater Medford/Malden/Melrose	20.7	53.0	21.4	2.9	3.0	26.8	
17 Greater Cambridge/Somerville	16.1	49.2	21.1	2.0	3.6	20.5	
18 Greater Newton/Waltham	15.7	54.7	16.7	6.3	4.0	19.5	
19 Boston/Chelsea/ Revere/Winthrop	21.0	59.7	23.7	5.6	2.1	22.8	
20 Greater Quincy	21.1	51.9	18.3	2.9	2.2	25.0	
21 Greater Holyoke	26.0	55.2	19.9	3.3	1.8	25.9	
22 Greater Brockton	29.3	60.1	19.3	3.9	6.4	30.5	
23 Greater Plymouth	25.6	59.2	16.7	4.4	6.2	28.0	
24 GATHER	24.4	46.9	16.7	3.4	4.4	29.0	
25 Greater Fall River	27.5	47.2	11.0	2.1	2.0	27.9	
26 Greater New Bedford	24.1	53.3	19.1	3.1	2.9	29.8	
27 Cape and Islands	18.3	55.0	13.9	4.7	3.8	20.0	

* not provided due to insufficient sample size

¹ Among current smokers.

² Individuals who consume no alcohol are included in these analyses.

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

	Fruits and Vegetables							
	Physical Activity		Hypertension awareness		Cholesterol Screening			
	Any physical activity in the past month	Regularly physically active ³	Eat 5 or more fruits and vegetables/day	BP ⁴ checked in last 2 years	Ever told had high BP ⁴	Cholesterol checked in past 5 years	Ever told had high cholesterol ⁵	
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
1 Berkshire County	74.1	35.3	36.2	95.0	23.3	66.4	33.4	
2 Franklin County	81.5	35.9	31.7	96.7	25.7	76.3	39.3	
3 Greater Northampton	78.0	33.3	27.6	96.8	21.8	70.5	28.2	
4 Greater Springfield	72.3	24.9	28.7	95.3	21.7	71.1	31.1	
5 Greater Southbridge	71.5	24.6	31.8	99.1	29.0	67.5	35.2	
6 Greater Milford	72.1	26.4	32.5	93.5	18.7	76.2	29.2	
7 Greater Framingham	79.1	29.2	34.8	97.3	19.4	79.3	28.2	
8 Greater Worcester	73.0	34.2	29.9	95.1	22.3	79.3	24.5	
9 Fitchburg/Gardner	73.3	35.1	29.3	93.3	18.6	72.0	28.9	
10 Greater Lowell	72.9	30.1	27.0	96.9	19.6	76.0	25.6	
11 Greater Lawrence	70.2	28.1	30.8	92.4	21.1	73.9	25.6	
12 Greater Haverhill	83.8	26.0	24.0	96.7	24.2	73.2	32.9	
13 Greater Beverly/Gloucester	75.3	43.7	30.1	97.2	16.5	80.2	24.3	
14 North Shore	70.0	30.7	27.8	97.3	21.0	82.1	35.8	
15 Greater Woburn/Concord/Littleton	82.0	37.4	30.1	93.5	21.4	81.5	26.0	
16 Greater Medford/Malden/Melrose	76.5	28.0	26.8	95.2	19.5	71.5	27.0	
17 Greater Cambridge/Somerville	80.4	38.0	30.0	94.1	22.0	82.8	22.5	
18 Greater Newton/Waltham	84.9	42.3	23.4	94.5	18.9	78.8	29.1	
19 Boston/Chelsea/ Revere/Winthrop	75.3	31.7	26.7	95.2	18.5	72.0	24.1	
20 Greater Quincy	77.1	31.2	31.1	95.9	20.8	78.3	30.1	
21 Greater Holyoke	73.3	23.7	36.2	95.8	21.8	71.1	25.3	
22 Greater Brockton	67.0	25.0	28.1	96.9	23.3	75.5	30.7	
23 Greater Plymouth	83.3	27.5	26.6	95.1	27.7	72.2	30.4	
24 GATHER	78.2	27.8	25.9	95.0	20.7	80.1	26.9	
25 Greater Fall River	69.5	26.8	24.9	95.9	29.2	75.6	36.8	
26 Greater New Bedford	72.5	29.6	28.9	95.8	19.5	70.9	26.9	
27 Cape and Islands	76.1	39.0	33.4	96.0	33.6	80.0	29.6	

³30 minutes of physical activity at any intensity 5x per week.

⁴Among adults who ever had blood pressure checked.

⁵Among adults who ever had cholesterol checked.

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

Diabetes	Health Status		Health Insurance, Access and Utilization			
	Ever told had diabetes	Reported health was fair or poor	Prevented from usual activities by poor health	Routine check-up more than 5 years ago	No health insurance	Could not see doctor because of cost
(%)	(%)	(%)	(%)	(%)	(%)	(%)
1 Berkshire County	5.0	9.5	6.3	8.8	11.3	9.9
2 Franklin County	3.1	12.1	3.9	4.6	11.5	6.1
3 Greater Northampton	4.4	8.2	4.1	7.4	9.5	6.6
4 Greater Springfield	5.2	11.5	4.3	5.8	10.2	9.3
5 Greater Southbridge	6.6	12.3	4.6	5.5	8.3	5.5
6 Greater Milford	2.8	8.5	3.5	6.8	8.6	8.0
7 Greater Framingham	3.9	9.2	4.3	5.6	5.1	6.9
8 Greater Worcester	5.6	10.8	4.2	5.7	7.6	7.5
9 Fitchburg/Gardner	4.5	10.6	4.7	4.2	8.9	6.0
10 Greater Lowell	4.8	12.6	4.7	5.4	7.7	8.4
11 Greater Lawrence	4.4	12.5	5.3	5.3	9.0	7.5
12 Greater Haverhill	3.1	11.0	5.7	8.0	11.6	5.4
13 Greater Beverly/Gloucester	5.1	9.8	5.9	3.9	4.9	5.8
14 North Shore	3.9	13.4	5.0	5.3	7.5	8.3
15 Greater Woburn/Concord/Littleton	3.0	7.9	2.9	6.6	4.3	4.5
16 Greater Medford/Malden/Melrose	3.9	11.1	4.1	5.1	7.7	7.4
17 Greater Cambridge/Somerville	4.5	10.7	5.0	6.4	9.8	7.2
18 Greater Newton/Waltham	1.2	6.6	3.4	5.9	5.0	6.9
19 Boston/Chelsea/ Revere/Winthrop	4.0	12.5	4.6	5.4	13.0	10.8
20 Greater Quincy	4.1	11.7	4.9	3.8	8.3	7.4
21 Greater Holyoke	6.3	15.9	5.6	8.7	10.1	7.3
22 Greater Brockton	3.5	14.4	4.4	5.3	9.7	8.1
23 Greater Plymouth	4.2	11.6	5.5	5.6	8.0	7.3
24 Greater Attleboro/Taunton	3.9	12.3	6.4	6.4	9.7	7.8
25 Greater Fall River	6.1	15.2	5.1	8.2	11.4	9.3
26 Greater New Bedford	4.8	14.9	6.2	7.9	12.3	12.7
27 Cape and Islands	4.4	11.3	4.4	7.8	9.1	8.1

SUMMARY OF DATA FOR MASSACHUSETTS CHNAs

Breast Cancer Screening										Cervical Cancer Screening		Colorectal Cancer Screening		AIDS/HIV	
	Mammogram in last two years ⁶		Clinical breast exam in past years ⁶		Examine breasts once a month		Pap smear within the last three years ⁷		Ever had a proctoscopic exam ⁸		High/medium chance of getting AIDS virus ⁹		Ever had a blood test for HIV ⁹		
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	
1 Berkshire County	83.0	80.0	80.0	50.1	89.7	33.4	7.4	38.4							
2 Franklin County	79.3	64.7	69.2	59.6	91.8	*	9.7	37.1							
3 Greater Northampton	74.5	69.2	73.7	45.4	86.7	43.1	10.1	39.6							
4 Greater Springfield	78.3	73.7	72.3	52.4	86.0	29.8	7.2	47.7							
5 Greater Southbridge	79.9	72.3	78.9	60.3	84.9	34.5	6.8	42.8							
6 Greater Milford	74.8	78.9	78.8	35.8	88.0	28.3	8.2	40.2							
7 Greater Framingham	83.0	78.8	66.6	45.9	84.3	32.8	6.5	44.5							
8 Greater Worcester	82.0	77.0	73.6	54.4	87.8	34.8	9.3	43.5							
9 Fitchburg/Gardner	73.6	66.6	78.4	46.1	87.7	27.9	8.1	40.7							
10 Greater Lowell	78.4	72.7	72.1	45.3	85.1	29.1	6.2	41.7							
11 Greater Lawrence	72.1	66.1	76.5	41.3	85.7	25.7	3.4	38.6							
12 Greater Haverhill	76.5	69.1	74.3	29.0	79.4	20.4	3.3	39.9							
13 Greater Beverly/Gloucester	74.3	71.4	78.9	49.0	93.1	34.9	6.2	37.9							
14 North Shore	78.9	78.3	85.4	45.1	89.8	39.6	5.4	43.5							
15 Greater Woburn/Concord/Littleton	85.4	81.1	82.9	47.5	89.9	42.9	4.3	43.9							
16 Greater Medford/Malden/Melrose	82.9	73.9	82.2	43.3	90.7	22.6	6.4	41.5							
17 Greater Cambridge/Somerville	82.2	79.5	83.8	32.4	82.7	28.6	5.5	48.6							
18 Greater Newton/Waltham	83.8	77.6	77.8	45.5	87.2	35.2	11.9	35.1							
19 Boston/Chelsea/ Revere/Winthrop	77.8	69.6	80.4	42.2	83.2	26.5	9.3	48.0							
20 Greater Quincy	80.4	75.9	74.6	43.1	86.7	26.5	6.3	40.0							
21 Greater Holyoke	74.6	61.8	80.8	45.7	82.7	35.4	7.8	41.8							
22 Greater Brockton	80.8	66.2	79.1	50.1	88.3	17.3	7.2	42.9							
23 Greater Plymouth	79.1	71.6	78.8	46.2	86.3	26.7	9.2	37.9							
24 GATHER	78.8	69.7	82.7	44.1	89.9	35.7	7.8	45.0							
25 Greater Fall River	82.7	72.3	76.4	58.2	82.4	27.0	6.1	40.7							
26 Greater New Bedford	76.4	61.9	73.8	54.1	85.9	29.9	10.0	47.2							
27 Cape and Islands	73.8	68.5		47.5	85.3	50.9	6.4	48.3							

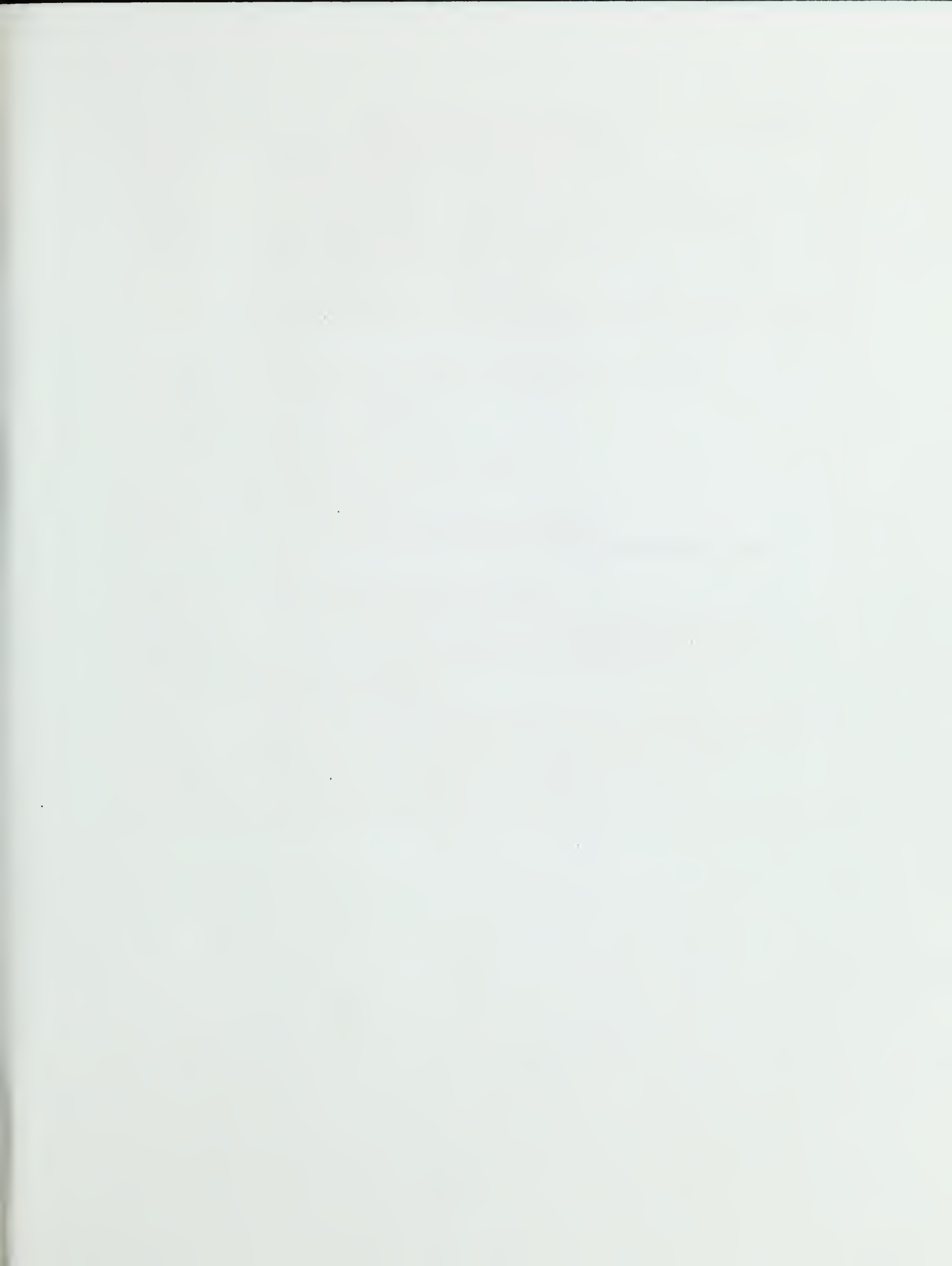
*not provided due to insufficient sample size

⁶Among women 40 and older.

⁷Among adults 50 and older.

⁸Among women without hysterectomy.

⁹Among adults age 18-64.



MASSACHUSETTS CHNAs

CHNA 1	Community Health Network of Berkshire County
CHNA 2	The Upper Valley Health Web, Franklin County CHNA
CHNA 3	Partnership for Health in Hampshire County, Greater Northampton
CHNA 4	The Community Health Connection, Greater Springfield CHNA
CHNA 21	Four (for) Communities, Greater Holyoke CHNA
CHNA 5	CHNA of Southern Worcester County
CHNA 6	Community Partners for Health, Greater Milford CHNA
CHNA 7	Community Health Network of Greater Metro West, Greater Framingham CHNA
CHNA 8	Community Wellness Coalition, Greater Worcester CHNA
CHNA 9	Fitchburg/Gardner CHNA
CHNA 10	Greater Lowell CHNA
CHNA 11	Greater Lawrence CHNA
CHNA 12	Greater Haverhill CHNA
CHNA 13	Greater Beverly/Gloucester CHNA
CHNA 14	North Shore CHNA
CHNA 15	Greater Woburn/Concord/Littleton CHNA
CHNA 16	North Suburban Health Alliance, Greater Medford/Malden/Melrose CHNA
CHNA 17	Greater Cambridge/Somerville CHNA
CHNA 18	West Suburban Health Network, Greater Newton/Waltham CHNA
CHNA 19	Alliance for Community Health, Boston/Chelsea/Revere/Winthrop CHNA
CHNA 20	Blue Hills Community Health Alliance, Greater Quincy CHNA
CHNA 22	Greater Brockton CHNA
CHNA 23	South Shore Community Partners in Prevention, Greater Plymouth CHNA
CHNA 24	Greater Attleboro-Taunton Health and Education Response (GATHER)
CHNA 25	Partners for a Healthier Community, Greater Fall River CHNA
CHNA 26	Greater New Bedford Health & Human Services Coalition
CHNA 27	Cape and Islands CHNA

